DOCUMENT RESUME

ED 251 968 EA 017 379

AUTHOR Sattes, Beth D., Ed.
TITLE Promoting School Excellence through the Application of Effective Schools Research: Summary and Proceedings of a 1984 Regional Exchange Workshop (Nashville, Tennessee, April 15-16, 1984). Occasional Paper Series.
INSTITUTION Appalachia Educational Lab., Charleston, W. Va.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
REPORT NO AEL-OP-015
PUB DATE Sep 84
CONTRACT 400-83-0001-P-6
NOTE 150p.; For individual papers, see EA 017 380-384.
PUB TYPE Collected Works - Conference Proceedings (021)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Conference Papers; Conference Proceedings; *Curriculum Evaluation; Curriculum Problems; *Educational Change; *Educational Improvement; Educational Innovation; Educational Policy; Educational Principles; Elementary Secondary Education; Leadership Styles; Principals; *Program Implementation; *Teacher Effectiveness; Teaching Models; Time Management; Workshops
IDENTIFIERS Curriculum Management; Curriculum Mapping

ABSTRACT

A regional workshop was held in which educational researchers and practitioners shared their innovations, successes, concerns, and progress in using research and development to promote excellence in their state and local education agencies. This document reports its proceedings. "School Improvement: What the Research Says," by David P. Crandall, draws upon recent research to list and debunk 10 "myths" about school improvement. "School Improvement: Issues and Answers" by Harriet Doss Willis, addresses school improvement from three perspectives: shared assumptions, common recommendations, and change strategies. Shirley M. Hord describes research on principal styles in "The Effects of Principal Styles on School Improvement." Fenwick English provides an overview of curriculum management and the auditing technique of curriculum mapping in "Curriculum Mapping and Management." Finally, Jane Stallings provides numerous suggestions for increasing excellence in schooling and teaching through using time effectively in "Effective Use of Class Time." Appendixes provide the handouts that were distributed for each presentation. (TE)

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PROMOTING SCHOOL EXCELLENCE THROUGH THE APPLICATION OF EFFECTIVE SCHOOLS RESEARCH:

Summary and Proceedings of a 1984 Regional Exchange Workshop

Edited by:
Beth Denkert Sattes

AEL Occasional Paper 015

EA 017 379

Appalachia Educational Laboratory

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Beth D. Sattes

September 1984

Educational Services Office
Appalachia Educational Laboratory, Inc.
Charleston, West Virginia

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The project presented or reported herein was performed pursuant to the Regional Services Contract (400-83-0001, P-6) from the National Institute of Education, U. S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the Appalachia Educational Laboratory or the National Institute of Education, and no official endorsement by the Appalachia Educational Laboratory or the National Institute of Education should be inferred.

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ACKNOWLEDGEMENTS

This publication was made possible by the presenters. Their participation not only contributed to the success of the workshop but also assured the value of this document to those interested in educational quality. I have certainly learned a lot from them in working to put their spoken words into written ones.

Many others at AEL have helped in the publication process. I want to especially thank Pat Cahape, Shirley Keene, Carolyn Luzader, Sandra Orletsky, Jack Sanders, and Marilyn Slack.

Beth Sattes
Educational Services Office

INTRODUCTION

The Appalachia Educational Laboratory (AEL) was established in 1966 as a non-profit corporation dedicated to improving education and educational opportunity in the AEL Region. AEL can be viewed as a linking agency or as the juncture between educational researchers and educational practitioners. The linkage is two directional in that practitioners gain access to new knowledge, products, and programs of developers; and researchers learn about the R & D needs and interests of practicing educators.

AEL has a contract with the National Institute of Education to operate a Regional Educational Laboratory (REL). Each REL services a particular region of the country. AEL's member states include Alabama, Kentucky, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. Four additional states are served by AEL's Regional Exchange, the sponsor of the 1984 workshop; they are Florida, Georgia, North Carolina and South Carolina.

As a regional laboratory, AEL conducts long-term educational R & D in several program areas. The areas of research are identified by state and local educators through a regional needs assessment process. Another function of AEL, carried out by the Educational Services Office (ESO), is to provide R & D-based services to educators throughout the Region. One such service is the 1984 regional workshop held in Nashville, Tennessee, April 15-16; anotner is this report of the proceedings. The workshop, cosponsored by the Tennessee Department of Education, brought together educational researchers and practitioners to learn from one another by sharing their innovations, successes, concerns and progress in utilizing R & D to promote excellence in their state and local educational agencies.

The workshop topic was initially identified by ESO Advisory Committee members. The theme of the workshop, "Effective Schools Are America's Best Bet," comes from a program of that name sponsored by the National Association of State Boards of Education, the American Association of School Administrators, the National Education Association, and the Council for Educational Development and Research (CEDaR). As a part of the "Best Bet" program, free clinics will be offered at state and national meetings to present research findings and to suggest methods of implementing R & D-based school improvement programs.

SCHOOL IMPROVEMENT: WHAT THE RESEARCH SAYS

David P. Crandall

David Crandall is the founder and executive director of The NETWORK, Inc., Andover, Massachusetts. Now in its 15th year of operation, The NETWORK is dedicated to bringing together school people and helping them use R & D knowledge and knowledge-based innovations to improve their schools. In the past 15 years, Crandall and his staff have been involved in the design, implementation, or study of virtually every national dissemination effort focused on the improvement of classroom practice.

In 1978, The NETWORK was chosen by the U. S. Department of Education as the contractor for a major multi-year study of school improvement intended to expand the learnings of the earlier "Rand Change Agent Study." This large-scale nationwide study, which Crandall headed as principal investigator, mobilized teams of change researchers to study the dominant strategies sponsored by the Federal Government to foster school-based efforts to enhance instructional effectiveness. The results, reported in a 10-volume series titled, People, Policies and Practices: Examining the Chain of School Improvement, form the basis of Crandall's presentation.

The stimulus for AEL's conference on "Effective Schools" is the outpouring of reports and studies that have brought education, educational excellence, and improvement to the front page and to the front burner of our thinking. It seems appropriate to me to move beyond the rhetoric to consider some of the realities. My perspective is that of someone who believes we need to concentrate on implementation issues, the "now to do it," if we are going to make any serious progress. If 1983 was the year of atmospherics, then perhaps 1984 can be the year for serious action. If not, I think that we and our publics will find ourselves echoing the words of our latest folk hero, Clara Peller, "Where's the beef?" My belief is that we are at great risk of building and baking big, fluffy buns and not providing the profession or the public with the beef that we are asking them to pay for with their efforts and their dollars. In my

remarks today, I hope to supply you with, if not the beef itself, at least some tips to use as you formulate your own recipes for making changes in your schools.

My remarks are primarily directed to school people, and to people who work with school people. The body of my talk is ten myths about school improvement and the realities as we discovered them in our research. I will close with six messages for school leaders committed to doing something back home. The "Study of Dissemination Efforts Supporting School Improvement" was a massive, nationwide effort that has occupied the last five years, the first three of which were funded by the Department of Education. We visited 150 schools across the country, and interviewed several hundred teachers, administrators, central office people, and consultants. More than 4,000 local educators responded to our questionnaires. The schools were a mix of elementary, junior high, and senior high schools in ten states representative of the continental United States. They were implementing one of 61 different innovations.

Before I begin talking about myths, I want to share five assumptions that undergird my remarks and my perspective on school improvement.

1. Schools are the only social institutions with the formal responsibility to provide learning opportunities for children and with the resources, in the form of dollars, buildings, and personnel, to do it. For the foreseeable future, the schools have the job.

2. The teachers that we have today are the teachers that we will have tomorrow; that is, if we can keep the good ones from bailing out or burning out. The recent fear of microcomputers displacing teachers has subsided. We know now that teachers are not likely to be pushed out by computers; if anything, we may be facing a shortage of closet space in many schools.

3. The improvement strategies for the past 15 to 20 years, even if they haven't reformed the enterprise, have helped

prevent decay. That is a nontrivial accomplishment. And these strategies must be capitalized upon if we are to hold our own. They must not be orphaned amidst the rage of reform that acts as if the problems that have been identified in our recent reports are new discoveries.

4. The school building is the most appropriate focus and fulcrum for school improvement efforts.

5. Strategies that focus on what Ted Sizer calls the student-teacher-subject matter triangle should be our primary concern.

The following are 10 beliefs that many people accept as truths. Based on our research and on that of others, I have come to believe they are myths, and I will briefly describe my reasons for each.

Myth #1: Change can be produced by waving a magic wand or hoping for instant pudding. This takes the form of a belief that clarifying or articulating your goals or designating someone as responsible for change will lead to improvement. It's just not that way. Listen to a letter from an appointee in a district that operates according to these beliefs to one of his colleagues in a neighboring district.

Dear Sir:

My Superintendent has just appointed me to the same position that you hold in your district. He has given me full authority to proceed and wishes me to carry on my new job without bothering him. What ought I to do? How do I go about my job?

Making someone responsible for improvement or simply setting up policies supporting it does not equal success. Waving a magic wand will not do the trick.

Contrast this hapless correspondent with the following, which is a memorandum from an assistant superintendent to a superintendent in the

midst of a process of surveying the needs in the schools and planning the attack.

We have received the surveys from all buildings and are analyzing them. As we discussed, the first step is to define problems and to set priorities. My initial findings are outlined below. I see three fronts on which we could move. The nature of the beast is such that we can effectively advance on only one major front at a time. Which shall it be: (1) our core curriculum, (2) subject matter dealing with the needs of our non-college crowd and directed at lowering our dropout rate, or (3) improving our computer situation? How involved in computer education should we be; in what form; how soon; at what levels?

I'm ready to join in the process of deciding where to start, but before we present our recommendations to the school board, let's be sure that we agree on the essentials and that we present them in such a way that it is clear that they are interrelated; that to unbundle them would be to neutralize the effectiveness of the entire plan. I think each option should include:

1. A recommendation for a program or programs to do the job that was tried and true. For our present needs, these exist and provide the surest and most cost-effective solutions.

2. Budget projections into at least the second fiscal year showing as much funding to sustain changes as to initiate them.

3. A time table which allows adequate time to complete the change process before being distracted by other demands. We don't want to orphan a new effort too early in the game.

4. A proposal to hire external consultants. There are now a fair number of groups involved in school improvement, so we have some choices.

5. Designation of a key person here in the district (someone from the central office would be the logical choice) to tend to all the details once the external consultant has left. This person would have many functions, from ensuring that supplies are adequate, to helping teachers on an ongoing basis. In general, to be sure that the program is being well supported and used as it was intended.

Please let me know if you have any changes to this essential plan.

Change is hard work. It does not come easily; it does not come quickly. Every recommendation of the various reports and Commissions will require changes to be made--sometimes in material or curricula, sometimes in strategies and behaviors, sometimes in organizational arrangements and structures, and other times in policies and regulations. Regardless of the type of change to be made, the people and organizations making them will undergo a change process. In the past, particularly in large-scale reform movements, but also in periods of smaller-scale innovation, such changes have been approached as events. Announcement of new mandates, delivery of new sets of materials, and decisions to implement the new program, were often seen as the change. And just as often they failed to make any difference in schools.

As a result of these early failures, researchers and practitioners alike know that change is a process rather than an event. It takes time to change behaviors, procedures, attitudes; to reorganize roles and responsibilities; and to create the materials, approaches, and resources. Further, it requires a complex array of activities. It is more than putting a new name on an old bottle. The change process has several phases. Some of these get ignored in the fervor of reform. Although every change researcher and theorist has his or her own nomenclature for these phases, a basic set would be initiation, implementation, and institutionalization. That's what it is called in the research literature. You might call it "gettin' it up," "gettin' it going," and "gettin' it stuck."

In earlier research on change and innovation, and in early efforts to reform education, a great deal of emphasis was placed on the initiation or adoption phase. Getting the right people involved, having appropriate planning and problem-solving sessions, and selecting the correct solutions were the activities most relied on during this phase. Activities generally stopped when the decision was made to adopt a given program or solution. When the Rand Corporation's federal change agent studies reported that certain federally-supported demonstration programs were failing to result in long-lasting changes in schools, one major failing they pointed out was the lack of attention and emphasis given to the implementation phase of the change process. Along with other researchers, they painted scenario after scenario of innovative ideas being developed and never being implemented; or being implemented in such a superficial way that no real change occurred. Practitioners began to focus their research and experiments on implementation, and they developed support systems to prepare participants and then nurture the use of new programs. It takes work; you can't wave a magic wand; and that kind of pudding--if it's instant--won't be very much worth keeping.

Myth #2: It takes a lot of dollars to get improved instruction. Many of the statements we hear deal with the imperative of massive new dollars if we are to accomplish anything. In our study, in school after school, we found teachers and administrators working together with what can only be called modest resources. Improvement efforts were sparked by the injection of only a few hundred dollars--not hundreds of thousands. They took advantage of the talents of teachers and the willingness of principals and administrators to invest their time. The average cost of

a meaningful improvement effort that begins in the classroom is under $5,000. That money is available. It does not need to come from outside of the system. There are proven, low-cost alternatives that can serve us well while we pursue greater resources for even bigger changes.

Myth #3: We don't know how to mount and maintain change efforts. The findings of our study converge with those of other recent studies of change, and they tend to converge with what practitioners tell us is their reality. We are in the middle of a curious phenomenon--at least it's curious to most researchers--where practice is informing theory as opposed to theory informing practice. From my vantage point, what we're seeing is an emerging soft technology of improvement; what I call "human-eering" in contrast to "engineering." We now know how to do many of the things that we simply did not know how to do 10 years ago. The tools are at hand, the talent is available, and the help can be arrayed.

Myth #4: Extended participatory planning is the surest path to school improvement. Another way this myth sometimes gets stated is that mandates are counterproductive. We saw increasingly that people who spend much time in protracted planning sessions have no energy left to do anything. It is analogous to many committee meetings where minutes are kept and hours are lost. The surest path to success, based on our studies, were the scenarios that we labelled "forceful leadership." Because this finding may be controversial or misunderstood, let me take a little time to elaborate on what we mean.

The key ingredients for successful adoption and implementation are generally believed to include the following:

- Access to alternative projects to adopt or develop;

- Face-to-face contact in adopting disseminated projects;
- Validated practices, when they're available, and carefully designed ones when they're not; and
- Adequate materials and procedural guidelines, coupled with responsive in-person assistance during later implementation.

There are many ways of combining these ingredients into a school improvement strategy, and these combinations are often more dictated than chosen by local cultures, constraints, and working arrangements. Still, there are things over which local staff across different settings have some consistent control. Institutionalizing a significant change of practice means making good on the ingredients listed above:

- Developing or finding the project;
- Getting it adopted;
- Getting some external resources for it if they can be had, or freeing up in-kind local resources if they can't;
- Getting authorization to take some administrative liberties, implied in the very fact that the practice means changing local arrangements;
- Keeping the gradient or incline of desired practice change high in the face of the inevitable stresses and strains;
- Providing ongoing assistance; and
- Building the new practice into routine operations, procedures, and regulations.

Unless the project is a collective crusade--a rare but existent species in our sample--making all these things happen involves administrative authority and access to external and internal resources. In our sample of sites, and more sharply in the 12 sites that we studied indeptn over the course of a school year, the ingredients were provided most often and most fully when a central office administrator was involved closely with the project--from its development, if it was a local one,

or identification, if it was an external one, through its implementation and into its institutionalization. When that involvement was enlightened, forceful, resourceful, and long-lasting, highly significant practice changes were carried out and institutionalized.

Enlightened administrators were knowledgeable about the new practice. They also had substantive (i.e., curriculum coordination or instructional supervision) responsibilities rather than purely line-administrative jobs. Enlightened and forceful administrators pushed through ambitious changes and held tight to the initial magnitude of practice change that strained users and conventional working arrangements. This was a stressful situation because people had to undergo such a radical change in their instructional repertoire. This involved preserving largely faithful renditions of the original model, yet acceding to sensible demands for modification that were based on the shortcomings of the model; that is, there was adaptation allowed. It also involved some policing of the building level administration--heavily at the outset and selectively later on. Principals then monitored users--the teachers.

Adding resourcefulness to the equation meant just that: these people came up with external funding, freed up such local resources as release time and materials, and authorized some bending of local regulations to make the project work better. These are, of course, all things that central office staff have discretionary power to do, at least in most places. Most important, they put together an infrastructure for ongoing assistance. This infrastructure often combined local expertise, external consultants, and debugging mechanisms like hotlines, short

training cycles, regular meetings, etc. Pressure, knowledgeability, assistance, and exhortations from a senior administrator resulted in successful practice mastery and observable impacts that those users and building administrators who felt initially put upon, accepted at first grudgingly, then with satisfaction. Others, we should note, welcomed this kind of prescriptiveness. Finally, those advocates who stayed with the project, rather than turning away or turning it over to users, furnished more of these resources longer and attended to the critical task of locking the project into yearly routines, budgets, and regulations. The weakest projects were those that were progressively orphaned--first by their developers and trainers, then by the central office staff, then by the building administrators, then finally by users--such that nothing of substance remained.

It is important to stress in this that we are not advocating knee-jerk authoritarianism. There are other honorable ways to reach the goal of school improvement. We are suggesting that a central office administrator, who becomes an enlightened advocate of a new practice and actively assists building-level personnel to master it, has a better chance of actually delivering significant practice changes leading to school improvement than would be the case in most other scenarios. By delivering, we mean controlling what happens, reducing unnecessary detours, getting to the desired outcomes without blunting the original intent, extending the practice throughout the district, and making it a durable part of the local landscape. Other strategies are more democratic, but they are also more adventurous and, thereby, less certain to get these results. Also, such adventures are usually more expensive

and seem more feasible in time of financial plenty than in these times of scarcity.

Forceful leadership, therefore, is not the only way, but it is a more certain way. There is a place for both kinds of strategies--authoritarian and the more participatory strategies. We were surprised to find this emerging as strongly and powerfully as it did in the picture of the most successful efforts. These were situations that were characterized by rather rapid involvement and implementation versus planning. There were great numbers of teachers involved in these efforts and when we polled them as to their satisfaction and participation, 85 percent of the teachers in our sample reported satisfaction with the process and furthermore recorded that they had participated in the decision to adopt and to implement. So, they were not unhappy by this situation even though there was a lot of pressure being applied. The payoffs came and that made the process okay with the teachers.

Myth #5: Principals are the key to school improvement. The typical situation is that most efforts happen with the passive acquiescence of principals rather than their active assistance. The dominant posture of principals seems to be, "Don't bother me, I have better things to do." In one of our schools, the most important work and the most important contribution that the principal made to the improvement effort was insuring that there were the right number of glazed doughnuts for the workshop. The typical scenario in our studies sees the central administrator spending his or her time scanning the environment for alternatives, bringing them to the attention of the appropriate people at the building-level (teachers, designees of the principal), and mobilizing energies in

activities that are pursued with the acknowledgement of the principal and with the active engagement of the teachers. That central office person turned out to be the spark for the most important and successful of the efforts. They were the people who started them, sustained them, and provided the wherewithal for them to stick eventually.

Principals, like teachers, can be central, but they need more skills and more training if they are to make the contribution that is possible. In the meantime, efforts can be mounted that are not dependent on principals.

Myth #6: Teachers will reject innovations that they have not developed. Again, not from what we saw. From a teacher's point of view, everything is an externally developed innovation. It doesn't matter whether it was created at the district-level by a team of teachers (that didn't include them), at the state agency level, in another school district, or whether it came across state boundaries as a result of a regional laboratory effort or some other national effort. These are all outside of the reality of the individual teacher. Does that mean that teachers want to spend their time in invention? No. They want to spend their time in improvement, and they're willing to recognize and incorporate practices that are presented to them by credible, collegial people who can speak to their realities and help them to see how to do what others have done successfully.

Myth #7: Small changes are safer and surer. They certainly are. And you'll get just what you invest: very little. In our analysis, the only way that we could find anything that made a difference from an explanatory point of view was when we separated out the sites that had

attempted rather major changes from those who had tried minor changes. The message is, the harder you try, the bigger the mountain you try to climb, the higher you'll get. The big efforts are the ones that are worth it. While the little efforts may buff things up around the edges, they're not likely to produce any serious improvement.

Myth #8: Materials, research findings, or new ideas by themselves will lead to change. Well, materials have a funny way of acting like what they are: inanimate entities. No matter what size, shape, or pretty color the box is, by themselves they're very unlikely to produce much change. So it is with research findings. They typically don't come packaged as prettily, they don't come with quite as much sex appeal as curriculum materials, and they don't have as much effect as materials. Ideas about some emerging notion are even more abstract. What's needed for typical teachers in conventional schools (which is what most of the schools in the country are) is the transformation of materials into practices that help teachers see how something is to be done, that provide them with a new expanded repertoire of skills backed by materials and knowledge, and that will produce something different in the instruction that they offer their students in their classrooms. Practices are central; products are secondary; people are critical. For any other meaningful change efforts, the presence of substantial interpersonal assistance made the difference between success and failure. It's been confirmed in research study after research study. It's not that you don't need the new ideas, it's that by themselves they're necessary but not sufficient.

Myth #9: Put your emphasis on getting high-quality in-service at the start of an effort. Disseminators pay a lot of attention to getting their initial sessions in place. Much time is spent negotiating release time for teachers. Two-day workshops are very carefully orchestrated. That's fine. But if a major effort is being mounted, if there is a substantial difference between the current practice in the building and in the new practice, then that front-end training will do nothing more for most people than get them moving in the right direction. Only after some weeks or months have passed and their experience has expanded to the point where they now know what their questions and problems are, can they really take advantage of assistance. The message here is to reallocate some of the time for the back end. It doesn't necessarily mean adding time. If you can do that, that's great. But if you have three days at the front, take one and move it back four to six months. Build in consultant time or an extra opportunity for teachers to get together later. That's where it's most important. All too often teachers find themselves adrift just when they're beginning to have questions formulated in their minds.

Myth #10: If new programs are successful, that is, if they meet their goals--if the test scores go up, if the kids come to school, if the parents stop complaining--then the innovation will stick automatically. Not true. If you do not attend very carefully and programmatically to what researchers call "institutionalization," the whole enterprise is likely to blow away. A little turbulence in the outside system that you can't predict--some kind of a hassle over the tax levy, a teacher strike, an editorial in the newspaper--can displace the intention and the energy

that was previously focused on the innovation. We saw programs that had demonstrated dramatic achievement gains go down the dumper. And we saw at least one that was never actually implemented in the classrooms become permanent district policy. Classroom teachers didn't know what was happening. You must plan for institutionalization: work to allocate budget items to new programs, alter curriculum guidelines, and plan for continued training of new teachers. Success in this arena is not simply a matter of magic; it happens as a result of dedicated educators getting help to do what they want to do if they're given a chance.

I would like to close with six additional messages for school leaders.

First, in school improvement, the teachers are "where it's at." The action between the students and the teachers and the content of instruction must be center stage.

Second, I urge you to take the risk of being responsible and accountable with teachers. If you are a leader, tell teachers that they will be held harmless during the first year of their efforts to do something different, and that they won't get hammered if there's a downward drop on the test scores. They shouldn't be distracted from the major work of trying to learn a new instructional repertoire, especially if it involves a substantial change in practice. Regarding principals, the job of school leaders is to develop a firm but friendly policy (and procedures to back it up) for the successful development or replacement of principals. I think that principals are in tremendous need of sustained assistance so they can realize the potential of their jobs. Just as teachers are

willing to change, principals are willing to lead. But many of them simply don't have the necessary repertoire of skills. They need to get them. If you're a principal, take responsibility for getting them. If you're a central office person, see that your principals have the opportunity. If they can't get their act together, hopefully there are other positions for them in the district. If not, your responsibility is to move them out. Unfortunately, principals are in the middle of a pincer movement. Budget cuts will continue to come down from the top, energy and demands will continue to come up from the bottom, and they are right in the middle. They've always been there, but it seems to me it's going to get a little dicier in the next several years.

Third, as a school leader, articulate and demonstrate a commitment to competence. That means, among other things, nurture your central office sniffers, scanners, mappers, and matchers. They are your eyes and ears to the outside, if they're doing their jobs right. They're sniffing out what new things exist that have proven successful in other settings. Those folks are your bridge to the outside. They are the movers and shakers for activities on the inside. Take care of them; pay attention to them; give them money. We found that these were the people leading the improvement efforts, and working with the school faculties to produce change and improvement in classrooms.

Fourth, create the conditions conducive to change by clearly stating your image of an improved future, designating responsible leaders, setting realistic timelines, finding the energy, supplying the necessary assistance and resources, and building buffers around the people who are trying to do something different.

Fifth, presume professionalism on the part of your staff. Activate and reward it. Teachers are prepared to be professionals. Act on that presumption and you'll be money ahead.

Sixth, coach--don't criticize. It's possible to celebrate the changes that you've accomplished with the people in your district who are willing. Schools are improving at a rather reasonable rate. Perhaps not as dramatically as they have in past decades, but it's hardly the bleak picture that we have had painted by many. We cannot forego and forget the accomplishments of the past 10 years in holding off some very serious potentials for collapse. We cannot throw out the baby with the bath water.

Thank you for your attention. If you would like more information, there are a variety of booklets available. The study has been published in 10 volumes. (See Appendix A for a description of written materials.)

Participant: What was your most surprising finding?

Crandall: I'd say the most surprising finding was the importance of the central office person. We had gone into the study advised to pay attention to building principals, external agents, and teachers. We were quite surprised to discover that the key role was really being played by this district-level person.

Participant: Just to clarify, are you saying that the central office impetus has brought about the greatest amount of change and that this is where it should be in the first place and not with the principal?

Crandall: At bottom, what I would advocate is attention to the functions that need to be in place--not what roles they are attached to. The function that the central office person plays typically, in a successful effort, is this scanning and monitoring on the outside and then bringing a small number of possibilities to the attention of a building staff. Most often that person is positioned at the central office. I wouldn't want to make a "should" statement that would focus on role. I'd rather say at the

district level, attend to having somebody do that. In smaller districts it may turn out to be a principal or even a teacher that's been around for a long time and has gotten into the position of being the one who knows what's going on out there--kind of a defacto person responsible for curriculum development or for language arts. I'm not making "should" statements about roles, and I'm not saying to eliminate the job of principal.

Principals could and should be making a major difference. They should be instructional leaders. In districts where central office staff gets pared down, that function usually drops down to a building principal who has been around and is knowledgeable.

Participant: I have read some research that claims the individual principal does not have a high degree of individual discretion, that there are so many job demands placed on them that it's difficult to be initiating.

Crandall: I agree. That's a reasonable explanation. The reason it's going to get worse is that the pressure in the progressive states is toward more school-based management. That's an emerging movement. It is the norm in these things that people at the higher level think they've solved the problem once they've formulated the policy. That's one more thing that's going to land on principals, and they're going to just start sinking into the earth. That's why I'm advocating attention to their skill development needs, to the support they need, and at the same time, I'm acknowledging that some of them just aren't going to be able to cut the mustard in this new environment, so let's figure out humane but hard-nosed ways to deal with that situation too or else we're going to get hammered by the public.

SCHOOL IMPROVEMENT: ISSUES AND ANSWERS

Harriet Doss Willis

Harriet Doss Willis is the Assistant Commissioner of the Division of General Academic Education in the New Jersey Department of Education. She has worked with school districts and state education agencies as an independent consultant. She served as Vice President for Programs at CEMREL, Inc., a regional educational laboratory located in St. Louis, Missouri, and also directed the Basic Skills National Technical Assistance Consortium. Her career exemplifies the bridge between research and practice, as she began her professional career in education as a classroom teacher. She has taught at grade levels ranging from kindergarten to college, and believes that this may be one of her most noteworthy accomplishments.

I have been asked to address School Improvement: Issues and Answers, a pervasive and encompassing topic. The national visibility of education issues has been dramatic during the past year, with answers being proposed by legislators, federal and state governments, scholars, and educators at the local level. I am going to attempt to do three things in my remarks this morning. First, I will present the shared assumptions from the recent studies and reports on the quality of American schooling. Secondly, I will discuss the recommendations regarding school improvement that grow out of these statements or that are commonly recommended by researchers and/or practitioners. And finally, I will raise some questions that I hope will be part of your deliberations and thinking over the course of this two-day workshop.

Since the United States Department of Education published A Nation at Risk in April of 1983, elementary and secondary education has become a central topic of discussion for families, political aspirants, and federal, state, and local leaders. This attention is providing an opportunity for

the educational community to examine the purposes, objectives, quality, and delivery of instruction and learning opportunities for students. We should view this attention as our chance to institute local and regional campaigns to improve the quality of, and perceptions about, schooling in the 1980s and beyond. The most central assumption is that the quality of American schooling needs improving. With the exception of the Boyer and Goodlad treatises, all of the blue ribbon panels begin with an overview of the national or international economic situation and deduce recommendations from this perspective. The usual conclusion is that things, meaning our international competitive edge, would not be so frightful if schools were better. I personally take exception with this point of view. Schools and our educational system are products of and are dependent upon our economic system, not the other way around. The accusatory stance taken by these panels belies the obvious; that somewhere along the way a number of erroneous business management decisions were made, involving retooling versus quick capital gains and, as a nation, we seriously depleted the natural resources. These things and the fact that we are no longer in an industrial age have set the stage for a loss of competitive advantage.

A recent synthesis, by the Education Commission of the States, summarizes 10 recent studies, and lists the following shared assumptions:

1. All agree that the quality of our current educational system must be <u>immediately</u> improved.
2. All agree that quality and equity are inseparable issues.
3. All assume that education is inextricably linked with the larger social issues (the economy, politics), and that without education America's future is bleak.

4. All agree that the state, local, and federal government have important roles to play. There is wide divergence, however, in the extent of the roles and the responsibilities for funding.

5. Most believe that the schools, the private sector, and parents must work together to provide and produce the most meaningful school experiences.

6. Most agree that the most efficient system is based on a decentralized model. Control would be vested within individual communities; priorities would be set by the communities, using differing approaches to renewal. Of those reports mentioning decentralized control, all feel that this autonomy would guarantee creativity, innovation, and imaginative solutions to problems.

The following recommendations are commonly suggested:

Curriculum

There should be a common core curriculum.

Extraneous, nonessential courses should be dropped.

Facility with language is mentioned in most reports.

Computers and technology should be stressed.

Students should have some sort of career guidance.

Teachers

The schools need better teachers.

Incentives must be created to entice better people into classrooms.

Once there, it is necessary for the systems to provide rewards to people who remain in the classroom and the field of teaching.

Teacher preservice training needs improving.

Standards for certification should be improved.

Management and Organization of the Schools

School level decisions should be jointly arrived at, made by administration and classroom staff.

Partnerships between the schools, the private sector, and parents are essential and need strengthening.

Guidance services need expansion.

More homework needs to be assigned and graded.

Fair codes of conduct and discipline need to be developed by all schools--K-12.

Social promotions should be eliminated.

The school day and/or year might need to be extended.

The primacy of the principal in schools needs to be insured.

The time devoted to the acquisition of basic skills needs to be increased.

Before discussing some of the research findings of the "effective schools" researchers, I would like to share some of my thoughts on the positive influences schooling has had since 1950--pluses which all of the reports have glossed over.

- In 1970, only 58,000 students took advanced placement tests; in 1981, 134,000 high school students took these tests. They measure knowledge, not aptitude.
- The first year the headstart youngsters were in high school was 1983. Only 19 percent were in slow learner classes, compared to 39 percent of control group children.
- In 1955, approximately 55 percent of white students and 30 percent of black students graduated from high school. In 1982, 85 percent of white and 75 percent of black students graduated.
- In 1947, only 28 percent of fifth graders went on to finish high school. By 1980, this number had increased to almost 85 percent.
- About 85 percent of U. S. youth, aged 15-19, are full-time students. This compares to 51 percent in France and Germany, 44 percent in Great Britian, and 40 percent in Italy.
- The educational attainment of the age cohort born 75 years ago was 8.7 years of schooling. Thirty percent graduated from high school; 13 percent completed one year of college.

The cohort born in 1950, now 34 years of age, attained an average of 12.9 years of schooling. Eighty-five percent graduated from high school, 47 percent completed one or more years of college, and 26 percent are college graduates.

- Dropout rates are declining nationally, according to a recent NCES report. In 1970, of persons aged 14-34, 17 percent were reported as dropouts; by 1980 this percentage had decreased to 13 percent.

- In a National Commission on Excellence commissioned study, 69 percent of sampled districts stated they had implemented activities to increase attendance during the 1979-82 period, and 51 percent stated they planned to either augment or implement programs by 1984-85.

- And finally, a fast response survey, requested of 571 districts by the National Commission on Excellence, indicated that between 1979-1982, 57 percent implemented policies and procedures to increase core subject requirements; 49 percent increased or established minimum competency high school graduation requirements; 26 percent increased the amount of homework required of students; and 49 percent established or increased courses to improve students' study skills/habits.

The list is endless, and I am sure that for each failing discussed in the national reports, we could find pluses. For each of our pluses, a critic could find minuses.

What is important, however, is that within the last 35 years a larger percentage of our nation's children are in school. Of these children, a larger percentage are graduating and going on to institutions of higher learning. The great national experiment of providing an equal educational opportunity to all children is closer to a reality.

The seminal Brown versus the Board of Education of Topeka Decision, in 1954, defined equal opportunity as equal access to facilities. We have gone beyond that point, and we are now talking about equal educational opportunity as the chance to, and expectation that, all students are capable of learning the criterion-referenced material.

The single, most talked about report on the effects of schools during the 1960's was James Coleman's Equality of Education Opportunity. This report was widely misinterpreted to mean that schools don't make a difference, and there is really nothing that schools can do to overcome tne cultural and economic disadvantages that children bring to school with them. In reality, Coleman and his fellow researchers attempted to link the various, static resources available to each school with the variations in achievement of the school's students. By static resources I mean things like teachers' levels of certification and years of experience; federal, state, or local dollars available; number of books in libraries; racial and social background of the student population; etc. The report concluded that student outcomes were more closely associated with family background and status than with the resources available at the school.

A major failing of the Coleman report was that it paid very little attention to the instructional practices, management practices, reward systems, and other activities and influences present within the school. Later research, culminating in the body of research we currently call "effective schools," began to focus on how schools were organized and how that organization maximized the resources, both fiscal and personnel, to focus on student achievement. The effective schools approach is an attempt to examine the manner in which teachers, counselors, and administrators coordinate their efforts to assist the classroom teacher to maximize the amount of instructional time available, and how efficaciously that teacher then motivates and reinforces the learning process.

The research also took a quantum leap forward when it began observing variations within specific settings. Were there major differences in

student achievement within the same school? Were there differences within the same districts? The answers to these questions were a resounding yes-- and the reasons for the yes explain the elements of effectiveness.

In a recent staff development session in New Jersey, Michael Cohen discussed another dimension of the current research. He believes that the early research overlooked the fact that most of the variation in student achievement occurs within schools. The formative period assumed that all resources were applied to all students equally. This ignored the fact that within schools students were assigned to specific learning tracks (college preparatory, general, etc.) and the teachers, textbooks, field trips, social groups, and clubs were different for each track. Outcomes, then, were predictably different.

The current body of research began focusing on more dynamic school processes, on what a teacher actually does within the classroom. Was he or she well prepared and organized? Did the lesson flow, or did it require constant interruptions and backtracking to cover important material? Was the classroom environment conducive to learning?

Cohen had some interesting views on the most current classroom management literature (people like Glasser, Hunter, Brophy, Good, et al.). Effective teachers, the research posits, can be characterized by the organization, planning, and instructional strategies they use. The real difference between good, poor, and awful classroom managers is not so much indicated by how they respond to disruptive behavior but by the instructional practices they employ. To a large extent, these begin before the first class meeting and continue throughout the academic year.

It is their consistent skill at managing and planning student time which reduces the opportunity for disruption; it is not their strong response after the disruption has occurred. This means that lessons are well organized and thoroughly prepared--with all materials available before the class meets.

It is also interesting to observe that the majority of current research, as summarized by Barak Rosenshine in a 1982 presentation, suggests--especially for younger students and those categorized as "slow learners"--that highly structured, direct and well-supervised learning experiences are the most effective. This is an interesting observation, given the emphasis placed on discovery learning and individualized, learning station practices. It seems to indicate that teachers need to consistently give instruction, explanations, myriad examples and ask for active student participation. This is not an easy task. But it falls into the definition of effective, achievement-directed classroom management. A high rate of student success (80 percent or better for new material and, hopefully, 90 percent or better on review) provides the positive reinforcement needed to foster achievement.

When combined, prior preparation, effective control and management techniques, strong reward systems, and good instructional practices have enormous effect on a concept called academic learning time (ALT). This phenomenon has three major components:

1. Allocated time per subject area. There are documented cases in which students within the same school building receive four to six times the amount of instructional time in a specific subject area as their peers.

2. Engagement time refers to the proportion of the academic period in which a student is either working on academic tasks or attentive to the teacher. Relinquishing time to

loudspeaker messages, discussing housekeeping chores, or handling disruptive behavior distracts from engagement time.

3. Success rate should be in the 80 to 90 percent range I discussed earlier. This is a surprising conclusion (Fisher, 1980), given the body of psychological literature which suggests motivation is increased when assignments are moderately difficult. On second thought, however, in the classroom a higher success rate would imply that the teacher is spending sufficient time on task, reinforcing and repeating with examples to insure a firm grasp of the basic concepts before moving onto another topic--somewhat different from the abstract motivational research of applied psychology.

The sense of efficacy and positive expectations for student achievement is especially important in classrooms with a large number of low achieving youngsters. There is voluminous research to document that teachers differentiate between low and high achieving students. Such treatment might include fewer opportunities to respond to questions asked of the class, more frequent criticism, and less praise.

An informal study of school-related reasons for students' dropping out was conducted by Bruce Wells at North High School in Worcester, Massachusetts. Wells concluded that poor attendance in the upper elementary and middle school years is strongly associated with dropping out later on. In an anonymous survey of several hundred high school dropouts, 60 percent said teachers putting them down, calling them "stupid," or "dummy," implied that they could not learn and, therefore, they concluded: "Why stay in school?"

Dr. Leslie Hart, in Human Brain and Human Learning posits that when we are anxious or fearful, our higher thinking skills are blocked by the more primitive parts of the brain which tell us to duck or run for cover. "The child freezes, seems unable to think, stabs wildly at

possible answers, breaks into tears, vomits, or acts up, perhaps to the point of violence."

Effective teaching practices are just one element of the "school excellence" program we are here for today. I would like to summarize, by suggesting a series of change strategies that the research focuses upon.

School Improvement Programs

1. Treat the school building as the unit of change, instead of the entire district, or individual administrators or teachers. A district may launch this process, but the focus of change strategies must be individual schools with central administrator support and involvement.

2. The identification of the problems to be addressed and the subsequent solutions to the problems are jointly agreed upon and developed by the administration and the staff.

3. The plan of attack (action plan) is developed to include who is responsible for what and when. It includes a strong evaluation plan, which periodically gauges progress and recycles to an earlier step if results are not acceptable.

4. All of the above occur using available dollars to the extent possible. Plans are developed, implemented, and evaluated using existing resources.

There are a plethora of school-based programs either being planned or currently operating, but the statistical base for these is still miniscule. We need another few years of evaluation and operation to begin a hard analysis of effectiveness along the axis of lasting change, ease of change, and effectiveness benchmarked along the criteria of increased student achievement (once again measured on standardized test scores).

Academic Learning Time

1. Increased homework--as long as it is intricately interwoven with class work, and regularly corrected and commented on by the instructor.

2. Depending on the interrelationships present in the district, teachers, counselors, department chairpersons, etc. can work together to actually "desk audit" the amount of time classroom teachers are spending on specific content areas. These, then, can be aligned and evaluation instruments developed, and shepherded through the arduous process of school board approval, which assess specific, agreed upon, learning objectives.

   This is not meant to suggest a litmus test for classroom teachers and their conformance with districtwide directives, but can be an extremely useful tool to bring the curriculum into alignment and develop achievement tests which measure material and subjects actually taught.

3. We can, by using joint planning and decision-making processes, agree upon schoolwide, and even districtwide, academic goals and objectives. This would afford more time, across an entire school, to those subjects agreed upon as more fundamental or important.

4. Finally, by developing and agreeing upon a code of student conduct and uniformly enforcing it, we can decrease disruptive behavior and, therefore, increase the actual amount of time available for instruction. Codes of conduct are important tools in the hands of personnel whose management skills are honed. Honing can be accomplished through in-service programs, presenting the newest and most effective approaches to teaching and using classroom management skills. There is no mystery here, and no failing in not knowing (almost from birth) good management skills. Too long has the profession relied upon intuition to replace practices missing from the syllabi of undergraduate and graduate education courses. This is one viable area for the over-maligned in-service sessions.

Numerous mechanisms are available to more completely focus the curriculum around a content core and develop a testing program aligned with this core. The easiest, of course, are districtwide testing programs. In states like New Jersey with statewide competency testing mandates, the program must be further aligned with the state's mandates. Since achievement testing programs should measure students' performance benchmarked against instructional offerings, curriculum alignment should accompany the development of a districtwide or schoolwide testing program. Building level planning, involving all members of the staff, can serve to

bring instructional objectives, content, and goals into proper perspective. Decisions on how to accomplish these objectives should be joint, to be most meaningful.

Richard Elmore's "Backward Mapping" strategy has substantial relevance here, especially since it focuses on the attitudinal and behavioral dimensions necessary to bring about the institutional and instructional changes we have discussed earlier.

The bottom line in all this seems to me to be the following questions:

> Do we, as educators, want to help produce an informed, educated, and participating citizenry?
>
> Do we, as educators, want to help produce people who, intelligently, can contribute to the well-being and continued growth of the country?
>
> Do we, as educators, want to help produce people who value learning enough to continue their education after leaving our classrooms?
>
> Do we, as educators, want to assist in the development of people who can exist in the new and demanding information age?

If the answers to these questions are yes, then as a profession, we should begin to seriously examine any body of research which allows us to adapt quickly and completely.

The spotlight is on us...<u>this is our year</u>! By applying the ever increasing and more relevant research base with the practical, everyday experiences of the people who know children and schools the best (those who spend the majority of their working hours within the confines of the classroom and school building), we can bask in the spotlight and revel in Spinoza's realization that "all things excellent are as difficult as they are rare."

THE EFFECTS OF PRINCIPAL STYLES ON SCHOOL IMPROVEMENT

Shirley M. Hord

Shirley Hord is Co-Director for the Research on the Improvement Process Program, R & D Center for Teacher Education, University of Texas at Austin. Hord and her colleagues at the Center have conducted a Principal-Teacher Interaction Study which has been awarded the best research study of administrators for 1983-84 by the American Association of School Administrators (AASA). The paper which reports the findings of this study is titled The Role of the School Principal in School Improvement Efforts. Hord's presentation reveals many of the findings from this important study.

Research on the Improvement Process is a project that has been studying the improvement process within schools--trying to understand how schools change, what the processes are for change, and what things have to happen in order for schools to change more effectively and more efficiently. We don't study what changes schools should make. That's for someone else to decide. But, when it has been determined that some change should be made and an improvement program has been selected, our research findings can help schools make that change.

Assumptions

Our research is based on several assumptions. First of all, change is a PROCESS, not an event. During the past 20 years, there has been an assumption that if a new program is delivered to a teacher neatly packaged and attractively laid out, it will be put into practice. We have learned over the years that change does not happen that way. It takes the input, the involvement, and the help of a great many people; it takes a substantial amount of time. Most teachers and principals understand this, but very few superintendents and boards of education do. Instead, superintendents and board members tend to pay attention to dollar signs; and

since time costs money, their interest is in having schools improve as rapidly as possible. But we have learned that change is a process, and it is a very expensive endeavor in terms of time.

Secondly, change is a very INDIVIDUAL endeavor. It is made by individuals first--then by institutions. We are interested in how individuals get involved and in what ways they change across time. The next assumption is related; change is a highly PERSONAL experience. For example, you may change much more rapidly than I. It may take me a long time to understand the new program or process. My needs might be very different from yours because you are moving along more quickly in understanding the change. The fourth assumption is that change involves developmental GROWTH. People who are changing develop and grow in terms of their feelings about change and in terms of their skills in applying it.

The outcome of all of these assumptions is: interventions must be related to the people first, and the innovation second. We think that whatever you do should be done with the individual teachers in mind, rather than with the new program, or innovation, as a focus. That's not to say the program is not important--but if you push to get the program in place, then you may leave your people behind.

Teachers Concerns

One way to keep people in mind is through their stages of concern as they are involved with the change process. We have learned, over a number of studies, that when you introduce a change, people have particular reactions. (See Figure 1, Stages of Concern.) Starting at the bottom of the chart, we see that when people don't really know about a change, they have

Figure 1

Stages of Concern:
Typical Expressions of Concern about the Innovation

	Stages of Concern		Expressions of Concern
IMPACT	6	Refocusing	I have some ideas about something that would work even better.
	5	Collaboration	I am concerned about relating what I am doing with what other instructors are doing.
	4	Consequence	How is my use affecting kids?
TASK	3	Management	I seem to be spending all my time in getting material ready.
SELF	2	Personal	How will using it affect me?
	1	Informational	I would like to know more about it.
	0	Awareness	I am not concerned about it (the innovation.)

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what we call Stage of Concern zero (SoC 0). They don't know about it. They are unconcerned about it.

When people first hear something about an innovation, they tend to have informational concerns (SoC 1). They want to know more about this new school effectiveness project that is going to be implemented. Coupled with that, they are also saying, "What does that mean to me?" They have personal concerns (SoC 2). For example, "If I get involved in a basic skills program, will I like it?" "What is it going to mean to me as a person, as a professional?"

After those early concerns are resolved by becoming more familiar and understanding the change to be implemented, concerns change to management (SoC 3). This happens when teachers begin to change their practice and to use a new program or a new process. Whatever it is--if it's a new behavior management process or if it's a new science program--when people begin using a new program, they have a lot of concerns about how they are going to make it work. Examples are "Where do I get the time?" "How much preparation is it going to take?" "How do I work it into my busy schedule?"

If things go well, if it's a good program being implemented, if teachers have the time that they need, and get the help they need, then they can move to consequence concerns (SoC 4). This does not happen easily or quickly. Many teachers never move beyond their management concerns, because we don't know enough about implementation to help them sufficiently. If teachers are concerned about management on a daily basis, they will either modify the program or they will drop it entirely.

Sometimes teachers move to what we call collaboration concerns (SoC 5) which involves working in coordination with another person. Some teachers never have collaboration concerns; they want to work in their own self-contained classrooms and are not interested in being engaged with others.

The last stage of concern (SoC 6) is what we call refocusing. This involves looking about for some other programs that will work even better. Some refocusing people have developed their own programs.

Looking Farther

As we have studied change, we have been very involved with teachers. We were led to the study of principals through some implementation work with teachers that we did in one of the western states. A very large school district wanted to implement a new science program. They had developed a program they were very pleased with, but they didn't know how to implement it. They came to us and suggested that if we would help them, then they could implement it more successfully and we could study the process.

We studied a sample of twenty schools in that district. After two years of implementing the new science program, nine schools were looked at more intensely; they appeared different in terms of how their teachers were feeling and behaving. Three of the nine schools had teachers with high management concerns. Another two of the schools had teachers with high consequence concerns. Four of the schools had concerns that were flat; the teachers weren't strongly concerned one way or the other.

All of these schools had the same resources, the same program, the same amount of time, and the same input--and yet we found large

differences. We wondered why that was, and so we started questioning to try to find out why these schools were different. We tested out all of our speculations. Is it the SES of the school? Is it the age of the building? Is it the age of the teachers? Is it the training of the teachers? Is it the principal? And as a result of talking with everybody, we determined that it probably was the principal. We hypothesized that what happens in school improvement efforts and the degree to which school improvement is implemented is related to the principal. That gave us our cornerstone for beginning to study principals.

Principals' Interventions

We have learned that many interventions are supplied by principals and others during a school improvement change process. Our definition of intervention is an action that will influence the use of a new program or innovation (whatever it may be). Interventions are things you do to make something happen--in this case, things you do to help teachers implement a new program.

There are several ways to look at interventions. One of these is what we call Game Plan Components (GPCs). (See Appendix B.) When you implement a school improvement effort, it is helpful to think about these GPCs and determine what you're going to do under each area. The first one is developing supportive organizational arrangements, which has to do with bringing in the materials, hiring staff, and providing the space. Providing for supplies and materials is a very important GPC and an important function that principals attend to.

GPC 2 is called training. Typically, in the schools we have studied, principals have not done much training. An agency like AEL does some

training and staff development. In large districts, curriculum coordinators may do training. If there is a state education agency, they may supply some training. Even though principals don't usually do the training, it is an important GPC in school improvement efforts.

The next GPC is providing consultation and reinforcement. It's the same thing as "coaching." It means follow-up after the training to find out if teachers really understand and to identify what kinds of help are required. This GPC is what really makes or does not make an implementation effort. Principals are frequently engaged in this area, especially in the schools where teachers had moved into consequence concerns.

GPC 4 is monitoring and evaluation. By that we mean finding out how it is going, what is needed, and what is not clear. It also involves more formalized evaluation. Monitoring an implementation effort is a required intervention. You can't help people and you can't deliver interventions that are very appropriate for them if you don't know what is needed.

The last two components are external communication and dissemination. We did not find much activity in these areas. Some examples would be reporting to the board of education or to the PTA, or disseminating information to other districts.

If you are a principal thinking about change, you need to attend to these six areas. The first four are the most important. If you neglect any one of those, you may not get your program implemented in the way that you would like.

Question: In your experience in schools, have you found that the external communication (GPC 5) was not necessarily essential?

Hord: Thank you for asking that. No, I would not say that. I think it's very important. It's something that does not need as frequent or as regular attention as the first four. It appears that after you've reported to parents and they seem to be supportive and satisfied, then you can turn your attention to other things. The first four components are things that regularly need some attention.

Question: I just wondered if maybe that's an activity that might be employed more at the central office than at the school level.

Hord: That's possible, although I would guess that the school level people have an obligation to keep their constituency informed about what's going on. I expect that the other side of the coin is we probably have not done enough of that and one of the reasons we may now be in the dilemma that we're in with our constituency, is that we have not let our public know about the good things that are happening in the schools.

Having described a "change" setting in which teachers' concerns can change over time regarding something that a principal or a school district introduces, and having talked about implementing school improvement in terms of essential interventions, let's look now at the principal.

We speculated that the principal was important. We read in the literature that principals are the gate keepers to change, and that they can really make or break an effort. But there was not much information available that identified the day-to-day behaviors which make an implementation effort successful. So we decided to study that.

We asked three school districts across the country--one in the east, one in the west, and one in the Rockies--to let us study three of their elementary schools. We asked each school district to identify three schools with three kinds of principals. In essence, we asked for a management-concerned school type principal, a consequence-concerned school type principal, and one that was not very strong either way. At

that time we didn't have names for these principal types. We had some descriptors and the districts were able to identify principals of each type.

We spent a year looking at what was happening in one slice of the life of a school. We weren't looking at the principal in all domains. We were looking essentially at what the principal and others were doing to facilitate the implementation of a particular school improvement effort. One school district was in its first year of implementing an expository writing program. On the east coast, the three schools were in the second year of implementing a new objective-referenced math program. The third school district was in it's third year of implementing a new science program.

We were in the schools four times during that year to talk with principals, district level people, assistant principals, and every teacher. We telephoned the principal every other week. On the off week we telephoned a second person in the school. We were very lucky to have principals who were interested in our being there and who were cooperative. As a result of all of that data collection, we picked up 1,855 incident interventions. Interestingly enough, in the year one schools, people delivered 517 interventions; in the year two schools, they delivered 684; and people in the year three schools delivered 654. The data seem to say that you don't slow down in helping teachers at year two or year three. You keep on going. Another interesting result is to look at a breakdown on the Game Plan Components. In GPC 1 there were 660 interventions. In GPC 2 (training), there were 128. This is a much lower number, however I suspect that the training may have been a longer

and more involved intervention, so it might have been more powerful. In GPC 3, there were 448 interventions; and in monitoring and evaluation, GPC 4, there were 416. What we're trying to suggest here is that it's more than just "delivering the box." It is more than providing in-service for the first three days of school in August. It goes on across several years.

Another way to look at the interventions was to look at their source: Who was doing them? Lots of people were involved in doing interventions: teachers, district level curriculum people, principals, assistant principals, and special resource teachers. Of 1,855 interventions to support these implementation efforts, 583 were by principals. That's about one-third. So it's clear that principals are very important and that principals do things. These findings reinforced the notion that the principal is very important.

We found that assistant principals and other facilitators accounted for another one-third of the interventions. The rest of the interventions were by teachers, associate superintendents, newspapers, parents, and others.

When interventions are delivered, they go to somebody for a reason. We typically think of teachers being the only targets of an intervention because they're the ones who are supposed to implement a new program. We learned that principals receive interventions also. Teachers receive the largest number of interventions, but 256 of these interventions were delivered to the principal by teachers and by district staff.

Styles

After having collected the data, we tried to interpret and understand it. In so doing, we learned that there are different ways that principals go about doing things. This we call "style." There are three different styles we have called the initiator, the manager, and the responder. In general terms, the initiator makes it happen, the manager helps it happen, and the responder lets it happen. (See Appendix B for a description of principal styles.) Let me be very quick to add that in all the schools we were studying, the principals were doing a very satisfactory job.

When we looked at outcomes, we found that initiators and managers were more successful in implementation. Programs were better implemented (in a more correct or more appropriate way according to the school district's idea of curriculum progress) in classrooms within schools where there were initiators and managers present. We looked at principals in terms of vision and goal setting. Another way we looked at principals focused on what they did to structure the school as a workplace, and how they managed change. Still another dimension related to how principals made decisions. Lastly, we looked at what they did to guide and support the faculty in their efforts.

Let's look for a few minutes now at these three different types of principals. The first is the responder who lets it happen. The responder principals receive a lot of interventions from the central office. They get a lot of push coming from the central office because the responder principal does not supply that push within the building. The responder principal expresses very few ideas about the school and how it might be different in the future. We learned that responder principals are very concerned about the perceptions and the perspectives of other people. In terms of what goes

on in the school, they let others take the lead. They delay decisions and they get all kinds of input on decisions. Decisions are generally made one at a time instead of in coordination with other decisions that have impact on each other. And once a decision is made, it is fairly fixed and not subject to reversal. It appears also that the responders, because they're very concerned about other people and keeping people happy, are more often found in their offices. When you need something from them, you go to them.

Question: Do you in actuality find that people are blends of these or are you finding that they have a pattern?

Hord: That's a good question. We have found that the responders tend to be pretty consistent as responders. Initiators too are pretty consistent. We find that the managers seem to swing back and forth, sometimes being responders and sometimes initiators.

Participant: One thing it seems to say is that as you try to initiate change or encourage change in local school systems, you would deal with responders differently than you would deal with either of the other two groups.

Hord: Exactly. What it says to superintendents, I think, is that principals, like teachers, are different. They have to have support to implement programs in their buildings, and they need training for new programs, but they need different kinds of support.

Managers--what do they do and how are they different? An interesting and fairly significant factor about managers is that they are highly protective of their staff. We all know that teachers are being asked to do an incredible number of things; they are being asked to implement, implement, implement, and implement. One of the reasons for this is that many people think it takes only one year to implement a new program. So we are at fault when we ask them to do all of these things. But managers tend to protect their teachers and say, "My teachers are already overworked--come back and see me next year." That's different from the initiator who says, "Hey, that

program makes excellent sense for my kids--we'll do it." Managers are efficient; they see that the school runs well, things are there, and schedules are in order.

They cushion changes at the beginning and they modify the extent to which they implement new programs. Once they get under way with a new change effort, managers implement quickly and efficiently. Sometimes the implementation is at a lower level than the district office or the curriculum people might wish it to be.

Another very interesting thing we found out about manager principals is they're trying to do more of it themselves. We will not have time today to talk much about "the second change facilitator (CF)." This is a person in every building who turns out to be very important in helping to implement a new program. One of the interesting differences between initiators, managers, and responders is in their use of a second CF. The manager intervenes more often, and the second CF less often in the manager principal schools. For some reason, managers want to do it all to see that it is done right and done well.

You might guess that in responder schools the principal intervenes less than the second CF. It would probably make sense to you, given the description of these persons. In the initiator-led schools, it is almost half and half. The initiator principal looks at the whole area or territory involved in what needs to be done. He or she brings in a second CF and sometimes a third, determines what is to be done, and then shares those activities.

So, let's look at the initiator. When you go to their schools, you hear a lot about kids, and you hear a lot about programs and what they will

do for students. You get the idea that they know where they're going. They can articulate the kind of school they need. They have a clear vision. They get input and they listen. There is not as much participant decision-making. In the 1960's we had a lot of humanistic work going on and there was a strong push for participant decisionmaking. That's not to say such shared decisionmaking is good or bad, but simply that in the initiator school, there is less of it.

One of the things that characterizes these people more than anything else is push. They don't wait for it to happen; they're in there making it happen and they push teachers. They want things done and done well. They are focused on the achievement and happiness of their students. One of the five factors researchers have found present in effective schools is strong leadership at the school level.

One of the things that effective principals do is push in order that kids will learn more and they push not only on the teachers, but also on the kids, on themselves, and on the parents. They have high expectations that they clearly articulate. They are people who are informed, know what's available, what can be done, and what the options are. They are people who get out there and agressively seek resources. They are people who might "creatively reinterpret" district policies to get things done.

Question: What is the job role of the second change facilitator?

Hord: At the school level, this person can be the assistant principal, a resource teacher, or a teacher whose role is to help facilitate this new program. It can be what's called an innovation facilitator. This second CF can also come from the district level. In our data we found that in initiator schools and in manager schools, the second CF was a school level person; in the responder-led schools, it was a district level person, such as the subject specialist or curriculum coordinator.

Let me report a couple of the key findings about the second change facilitator. (See Appendix B.) The second CF does more of what we call complex incidents: the coaching, the follow-up, the consultation. They have longer interactions with teachers around more substantive issues, such as "how can I help you?" and "this is the way it should work." There is a relationship between the principal's style and the second CF role in terms of who does more and who does less. There's also a relationship between where the second CF is housed and the style of the principal. The initiators and managers have in-house, in-school second CF's. The responder has someone from outside the school. And sometimes there is yet another teacher who acts as a third CF, who is a little more informal and who works teacher to teacher, models how the innovation should work, disseminates information, and such. So, there may be a number of actors in the schools who are helping teachers change their practice through school improvement efforts to make their schools more effective.

CURRICULUM MAPPING AND MANAGEMENT

Fenwick English

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Today I will provide an overview of curriculum management and mapping. Mapping is an auditing technique for looking at the taught curriculum as reported by the teacher. Mapping deals with three things: it deals with the content of what was taught, the time spent in teaching, and the sequence of what was taught. Later I will explain how that fits into the notion of management, but first I want to present the basic concepts, ideas, and terminology of curriculum mapping and management, talking about management first and then mapping.

It is important to realize that curriculum management is different from curriculum development. A curriculum developer may not have any responsibilities for implementing, monitoring, and/or changing a curriculum. Typically, in a university course on curriculum, a lot of time is spent on development theory, but not much, if any, time is spent on the management of that curriculum once it is in place in a school system. The principal or superintendent has responsibility for the implementation of the curriculum and for determining whether or not it is effective.

People in the school district who have responsibilities for the management of the curriculum are curriculum generalists, rather than curriculum specialists; i.e., they are not subject area people. They have responsibilities for the broad range of curriculum that exists in their building, program, or district. Although mapping is a very useful technique for any subject area, and although subject area people use it, the real genius of mapping is its ability to give a broad picture of the taught curriculum. It gives principals and other instructional leaders a handle on the curriculum that they never had before.

Management

The function of the management of anything (whether it be the curriculum or the cafeteria program) is to insure that what we want to have happen, happens. In this respect, the classroom teacher is the basic manager of the educational enterprise. The reason that we put a teacher in a classroom is to manage something called learning. Management of the educational process is called instruction, or teaching, and the teacher is the manager of learning. We believe that by putting a teacher in a classroom, something happens that is regular and consistent, and is deemed vital by our society. We can extend the same rationale to a building principal. The reason that we have a principal in the building is that something happens that wouldn't happen as regularly if the principal were not there. If that's not true, we don't need a principal.

In the job of management, there are three basic kinds of broad activities that should be carried out. The first responsibility of anybody involved in management is to define the purpose and mission of whatever it is that you're about. And that is in terms that are accessible, so we

know whether or not it happens. The second thing that's very important is to configure or shape the available resources. The third tning managers do is to utilize feedback to make adjustments that are required. Feedback can come in a variety of forms; it can be informal or formal. Formal feedback is in the form of a rating or a test score. Informal feedback can be a letter or a complaint. These are the three functions of management, whether you are a manager of IBM, or a manager in any area.

I want to point out the difference between effective and efficient. They're not the same. When you take the resources that are provided and you get the results that the organization wants, we say that you have been effective. You might not have been efficient. Another word that sometimes stands for efficient is cheap. You know it's possible to be cheap and not effective. We can spend very few dollars but not get the results. Effectiveness relates to the objectives--the reason you are there. If you accomplish those objectives, that's one thing; if you don't, you have not been effective. It's also possible to overspend your budget and not reach your objectives; then you are neither effective nor efficient.

Resources. There are only three resources available: people, time, and material. Material includes all inanimate objects sucn as buses, books, and buildings. As a person who exercises responsibilities for managing, you are expected to take on three general or generic management tools. Budgets, schedules, and curriculum are the three basic management tools that we use to shape our resources. Every human organization has a curriculum. One of the things that enables us to understand the function

of curriculum in schools is to understand its function in other organizations, even though they may not call it a curriculum.

Curriculum

Before we talk about curriculum, we have to define it. Curriculum is a Latin word. As a noun, it refers to a lap, a race, a racetrack, a path, a road, or a way. Figuratively speaking, when you develop a curriculum, you are developing the student's career; the student's career is a means to the student's life. From the Latin perspective, the curriculum was a means to an end. It was a road to get some place. You have all heard the saying, "If you don't know where you're going, then you'll probably end up some place else. Or it doesn't really matter where you end up." A lot of school districts are run like that. They're very efficient but not very effective; they don't have the foggiest idea where they are going. If a curriculum committee understands what curriculum is, the first thing that they will do is to define what the curriculum is to accomplish; then they will write the curriculum. You define the end first. The curriculum becomes the means that you use to reach the end.

If you don't know what the curriculum is supposed to accomplish, then any curriculum is as good as any other. Any road will take you there if you're not fussy about where you end up. If you don't know wnat your objectives are, any textbook is as good as any other. A curriculum is deliberately selected to get us to a specific place. I call this the "lean and mean" definition of curriculum. If you know what the curriculum is to accomplish, then you will know which courses will not reach those objectives, and you can get rid of them. If you don't know what your objectives are, you will probably have more courses than you

need. Then you have to fall back on the definition of a good curriculum as being one that includes everything and excludes nothing. That's what I call the large "tub of jello" definition. It includes everything and is so flexible that it's moving around all the time.

The three elements of curriculum that we have traditionally tried to manage are content, time, and sequence. These manageable elements of curriculum are answers to very simple questions that every human organization asks and answers. The first question is, "What do we do?" Because organizations are different and purposes are different, there are many different answers. Think for a moment of the organizations which you belong to besides your work organization. You belong to religious, fraternal, social, and recreational organizations. A bowling league has a different curriculum than a bridge club, or a lodge, or a church. The answer to that question is called the content, and in the literature of time on task, that is called the task. The second question is, "How much time are we going to spend on this?" The third question is, "In what order do we do it?" Those are the three questions by which a curriculum is created.

There are two kinds of curriculum operating in the schools--the implicit curriculum and the explicit curriculum. The explicit curriculum is the one that we typically think about; it is a plan, a document, or a guide. The implicit curriculum is the curriculum the teacher actually teaches; there may or may not be a guide. Long before the curriculum is explicit, it's always implicit. What we write down is a series of decisions about what, how much, and in what order. A curriculum can be operating in a school where there is no curriculum guide.

There are three motivating forces that cause educators (or anyone in a human organization) to move from an implicit to an explicit curriculum. The first reason is that some purposes are designated as more important than others. When some courses, classes, or subjects are said to be more important than others, we say that they are required, minimum, basic, or core. Somebody (the legislature, a national study, or we ourselves) decides that of all the things that children might learn or might be taught, these are things which they must be taught or they must learn. That is one of the major things that causes us to draft a plan--to make sure that something happens. Education is not very different from any human organization that writes a plan to make sure something happens.

The second driving force for a plan or a curriculum is scarcity or economy. We have long since discovered that schools cannot do everytning and that the people cannot afford for us to do everything. We have to make decisions based upon scarcity. Let me put it into a different context for you. If you had all the money that you needed in your program, you would not have to have a budget. A budget would be irrelevant. I don't know of very many school districts like that and I've never heard of an educational agency that had all the money that it needed. It seems to be a general human condition that we have more things to spend it on than what we have to spend; i.e., we have more needs than we have resources. Something has to give. In the budgetary process, a budget reconciles our resources to what we can spend those resources on. A curriculum does the same thing with a different commodity: time.

In the United States, children attend school, K-12, for about 14,000 hours. That is only 585 twenty-four hour days, or about 2,340 six-hour

days. Every teacher will tell you the same thing: there is more to teach than there is time to teach it in. If you have only 585 twenty-four hour days, you must make a choice about what goes on, because you don't have all the time in the world. So, the basic question that the curriculum answers is framed one of two ways: of all the things that you might teach, what are the things that you must teach? Or, to put it another way, of all the things that children might learn, what are the things that they must learn? You come to the inescapable conclusion that you have a very limited chunk of time.

It's been said that educators are great at addition, but they can't subtract. We keep adding to the curriculum, but nobody ever takes anything out. The next time somebody comes to you with a good idea for the schools, such as fire prevention, or humane treatment of animals, be sure to give them a list of all the things that schools are now responsible for and ask them what to take out. We already have responsibility for more than we can deliver. A friend of mine, who was an engineer, said that if we educators were engineers, we would have flunked because we have built a bomb that is bigger than the plane to fly it in. That is, if the curriculum is the bomb and the amount of instructional time that is available is the plane, your plane can't take off; it just sits there because the bomb won't fit. We all know that every day, every teacher scales that bomb down so that it will fit into the plane. What do they leave out? Fortunately, most teachers have a pretty good idea what to leave out. They leave out fire safety, humane treatment of animals, and all the other extraneous curriculum that somehow the legislature makes us responsible for delivering.

Just to give you some examples, in New Jersey there is a state law which says that all school districts shall teach flag day, arbor day, and Commodore John Berry day. I couldn't find anybody who had ever even heard of Commodore John Berry. In Pennsylvania, they have a law which says that on Emma Willard's birthday you must teach about her virtues. She was the most virtuous woman in the state of Pennsylvania, because according to the law, every teacher must teach about her virtues. Emma Willard is the founder of the first institution of higher education for women in the state of Pennsylvania. In Michigan, there's a law that says that on Will Carlton's birthday (Will Carlton was a famous Michigan poet who wrote "Over the Hill to the Poor House") everyone should read aloud his poetry. You can find things in the codes of all states that add things to the curriculum. But nobody ever takes anything out of the curriculum. So, scarcity is a driving force.

The third thing that's a driving force for the creation of a curriculum is something called rules. Rules are things like P.L. 94-142 and union contracts. Those are the driving forces for the creation of a plan by which we move from the implicit to the explicit curriculum.

Another way of conceptualizing this is that we wouldn't need a curriculum at all if we could remove the three conditions that I mentioned. If a school district could say that any purpose or outcome is as good as any other, they wouldn't need a curriculum. It's only when they say that there are certain things that children must learn, or there are certain things that we must teach, that they need a curriculum. Secondly, if a district has all the time, money, and materials that they need, they wouldn't need a curriculum. And finally, if there aren't any rules about

how we are to do things, then we wouldn't need a plan. Since those conditions are non-existent, we end up focusing on these manageable elements of curriculum. The curriculum becomes a tangible way to deal with the shortage of resources. When a school district realizes that they must do a better job with the existing time, with the existing staff, and perhaps with no additional funds, they arrive at a point where they say, "How can we improve the power of our curriculum, which is our explicit plan? How can we make it more effective; that is, get better results?"

If you want to make the curriculum a more powerful instrument in schools, to get better results, there are three things that must be present in the school district or program. The first thing that has to be present is testing. I really prefer the word assessment, because assessment includes the concept of testing, whereas testing does not necessarily include assessment. What we're really talking about is feedback. We have to have some information coming back to us about how close we got to those objectives that we set out to accomplish. There are two kinds of feedback: formal and informal. Formal feedback means we have prestructured the response of the people that give us feedback. Informal feedback is not prestructured by us, prior to the time it comes to us. So the first thing that has to be operating in a program or a school or a school district is the feedback function.

The second thing that must be operational in a school district is a curriculum guide. A curriculum guide is the product of a prescription. Prescriptions exist to answer the question that I posed to you earlier: of all the things that we might teach, what are the things that we must

teach? Or, of all the things that pupils might learn, what are the things that they must learn. The Board of Education answers that question by putting together a policy, the legislature answers it by passing a law, teachers answer it by putting together a lesson plan. The general rule of thumb is this: the closer you get to the operational level of any business, and ours is education, the more detailed the plans become. Typically, one expects to find more details in a lesson plan than in a board policy. In a drawing we would have arrows connecting the assessment and prescriptive function.

Now, if the assessment function tells us what we've done, and the prescriptive function tells us what we should do, then the third function, by definition and by logic, must be the function that we actually do. And that is the teaching function. That is where curriculum mapping comes into play. Curriculum mapping is an analysis of three things as they relate to the curriculum: content, time, and sequence of the taugnt curriculum. The name that we give to that is quality control of the functions of the written curriculum, the taught curriculum, and the tested curriculum. When these functions are being performed in a school district, they are connected, linked, or aligned.

Think of the three functions--the written, taught, and tested curriculum--as circles. One circle is our taught curriculum, which we call the real curriculum. We call it the real curriculum because that's the only one the student ever knows, the one that the teacher has decided to teach. The real curriculum has two parts. It has a what part, which is the content, or what we would now call "the task." And then there's a different modality and methodology of delivering that curriculum, which

we call "the time," and the time is spent on the task. This circle represents time on task, or the taught curriculum.

Now think of a second circle being the written curriculum. The written curriculum exists in a variety of formats, the most common being the textbook. Any overlap in these two circles represents what the teacher actually taught that is in the curriculum guide or textbook. That is called the congruence or alignment between the written curriculum and the taught curriculum. The non-overlapping areas of the circles represent what was in the guide that the teacher didn't teach, and what the teacher taught that wasn't in the guide. In some districts, these two circles don't touch one another at all, which means that we can sometimes spend a lot of time and money on curriculum guides that nobody uses.

The third circle is the tested curriculum. This could be a state competency test, the Metropolitan, or whatever. Where all three circles overlap represents the curriculum the children are tested on, that the teacher taught, and that was in the curriculum guide. Part of our diagram represents what the students were tested on that was in the curriculum guide but was not in the classroom. Part of it is what the test tested that was in the classroom but wasn't in the curriculum guide. And the tested curriculum that doesn't overlap anything represents what the children are being tested on that wasn't in the guide or in the classroom. Now there is one cardinal rule that you should remember; it is the universal finding of all of our research and practice as it relates to the written, taught, and tested curriculum. Children do better on tests

if you teach them what you test them on than if you don't. There is not a shred of research that contradicts that.

Once you understand the relationship between the written, taught, and tested curriculum, you can use this concept to help a school district get better results. When you get your feedback, which is usually in tne form of a test score, you have to know whether a low score or an unacceptable score is the result of a design problem or a delivery problem. Tnis is something we rarely think about, but it is an important difference.

A design problem occurs when there is a breakdown between the prescription and the test. For example, if teachers are using a textbook, is it congruent with or aligned with the test? I've worked with many districts who have begun using a continuous progress reading program that was not congruent with the standardized test they use. The result was their test scores declined because teachers were spending more time on things that the test did not assess. You must be sure that whatever you put into the hands of the teacher to teach is aligned with, or congruent with, the test. When you get low test scores, you need to look first at the relationship between the prescription and the test. Concentric circles would mean a 100 percent overlap.

You can be sure that your test assesses your objectives if you develop your prescription or objectives first and your test second. But in reality, many districts are stuck with the test because of state mandates. If the test cannot be changed, identify the contents, skills, and attitudes that are measured in the test, and develop a checklist (which becomes the prescription). Give that to the teaching staff to teach, and you will have congruence with the test. The trade off is that instead of

the curriculum driving the test, the test is driving the curriculum. Another way of saying it is that the people who wrote the test determined your curriculum, and a lot of people have no problem with that. All I'm saying is that when you're congruent, or aligned, you get better results than when you're not.

The second reason that we have a breakdown is called the delivery problem. When you are assured by your analysis that the prescription fits the test, you have a delivery problem. Teachers aren't using the prescription. This is a different problem and it calls for a different solution. The solution to the design problem is to correct the design error. The solution to a delivery problem is the traditional one of monitoring and supervision. The principal, or whoever has the responsibility for supervising and monitoring what teachers do, must make sure that the teaching staff uses the prescription.

The third breakdown is sequence. This happened in a school district that I worked in. They were concerned about their geography scores, and they did everything right. They wrote their geography objectives first. Secondly, they bought a textbook that included their geography objectives. Thirdly, they did inservice staff development activities and made sure that all the teachers understood the objectives. They showed the teachers how to use the textbooks. Then they went and observed the teachers, but they still got terrible scores. Then one day they asked the simple question: When do we normally teach geography? And when do we normally test for geography? They found out that they had consistently tested children on geography two weeks before they taught them the geography unit. Everything was right except the sequence. The solution to this

problem is relatively simple. First you fix the date on which the test occurs, and then you tell the staff to teach it before that time.

The fourth problem is the one in which the connections are there. The written, taught, and tested curriculum are together. But we don't spend enough time on mastery for children to be able to get the results. Somehow we miss the boat with enough children so that we really don't get the bang for the dollar that we put into getting the congruence in the first place.

The final reason is that there is no congruence between the method that we use to teach and the method that we use to test. The best example is spelling. The way we teach spelling is that on Monday we introduce the words, on Tuesday we use the words in a sentence, on Wednesday we have a pre-test, on Thursday we study the words we missed, and on Friday we test them by asking them to write the words. But when they go into a standardized test, children are given four ways to spell a word and they are asked to check the one that's right. That's a word recognition skill.

Let me give you an example of how important it is to teach kids how to take a test. In a district in Georgia, they selected a third grade class at random. They never changed any answers, but cleaned the answer sheets by making the bubbles straight, and erasing any extraneous marks. The pupils' test scores improved by 12 points on the average, by just having a clean answer sheet. They post-tested another randomly selected class whose answer sheets were not cleaned up, and their scores improved by only one or two items. You must teach kids how to take a test and teach them what a clean answer sheet looks like.

Curriculum Mapping

Curriculum mapping helps us get a handle on the relationship between the actual taught curriculum and the designed or prescribed curriculum. It is a way to audit or monitor the taught curriculum.

Curricular mapping is not a way to evaluate a teacher; it is a way to examine a program. If you're interested in evaluating a teacher, then you're interested in curriculum "zapping." I think that the key to successful mapping is a problem-solving, collegial approach. My approach to teachers has been that mapping will be the solution to a teacher problem; I try to show teachers how curriculum mapping will make their jobs easier. I tell them what they already know: that their jobs are a lot bigger than the time available to them. Mapping helps us know what teachers drop out of the curriculum. We accept that all teachers do it; that's the way it is and nobody's going to get punished for telling us about what they drop out.

If you're working in a district which has a poor environment in terms of some animosity between the teachers and administration or board, I suggest that the board adopt a policy which states no mapping data will be used for evaluation of personnel. It will only be used to evaluate programs. Another way to guarantee that it not be used for teacher evaluation is through anonymity. When the data come to the central office for scoring, there are no names on them. The more open and professional the environment, the better use you will be able to make of mapping as a tool to improve the alignment between the written curriculum, the taught curriculum, and the tested curriculum.

I'd like to share with you some examples of curriculum mapping. (Refer to "The Implementation Kit" in Appendix C.) The map on page 4 of the Kit" was used by Fresno Unified, a California district of 50,000 students. It is the simplest kind of mapping and was used for two weeks to see how much of the curriculum was actually being delivered. They didn't map at the level of objectives inside the curriculum; they mapped only for very broad areas. Notice that they also asked about non-curricular areas such as assemblies, discipline, testing, collection drives, and other things that subtract from instructional time. If a school or a classroom is well managed, that non-instructional time will be low. When it is not low, you need to work on some basics in school and classroom management that will increase instructional time. The results told us that for the most part, science does not exist at the elementary level.

Page 5 shows a sample map for a secondary school. Here we were looking at a specific course, Introduction to Physical Science, in a junior high school. The teacher indicates how much teacher time is spent on the 22 objectives or strands identified for this course. Remember that mapping is a collection of teacher time, not student time. It is a teacher's self-analysis of time spent on the taught curriculum.

On page 6 in Appendix C is an example of mapping in a high school course called U. S. History and Government. The data are tabulated in two ways. The percentages across the bottom indicate the percentage of the curriculum (identified by 29 concepts) that was taught by each teacher. For example, teacher A taught 83 percent of the concepts and teacher B taught 49 percent. The figures on the far right column tell you how much time the average teacher spent on each concept.

In describing the results of mapping, we have invented some terminology to explain what was found. One such term is slack. It means there is a certain amount of slack in terms of the relationship between the curriculum that was taught and the time required. The opposite case is one in which a semester course can't be covered in a semester--another example of the bomb being bigger than the plane. When you adjust the curriculum, you want to know how realistic the time frames are. If you have any slack in your curriculum, you can take it out to make room for other areas without reducing the overall curriculum. Mapping is a beautiful device to tell you how much slack you have in the curriculum, and there's more slack in most schools than you might think.

An example of sequential mapping data can be found on page 7. This was done in an elementary school in New Jersey. New Jersey has a statewide curriculum and these examples were taken from the statewide basic skills test. At the end of each week, the teacher indicated how much time was spent on each skill. For example, Jeff Jones spent 20 minutes on the comma in week one, 5 minutes in week two, none in week three, and so on. In the right hand column, you can see where he spent most of nis time in that 10-week period. He spent 1,175 minutes on spelling, or 76 percent of the total language arts time available; 5 percent on proper nouns; and 4 percent on beginning sentences. Across the bottom you can tell during which weeks he spent the most time in language arts.

When you map at the end of each week, you get the third component of mapping, which is the sequence. If the items that appear down the left are to be taught sequentially, with weekly mapping, you will get what's

called a stairstep. The big blocks of time will move down the page in stairstep fashion in a sequentially taught curriculum. A good example of that is on page 8 (Appendix C) where we mapped science by grade levels at an elementary school. Notice the semblance of stairsteps. You see that 983 minutes were spent on Material Objects in kindergarten, and 343 minutes in the first grade. That represents a break; the biggest block of time should be showing up in Organisms. But you see that the second grade teacher picked up Interaction Systems. The third grade teacher sort of blew it. The fourth grade teacher picked up Relative Position and Motion, and the fifth grade teacher spent time on Energy Sources. You can definitely see the breakdown in the delivery of this curriculum, which was supposed to be taught sequentially. Notice that 010 and 011 didn't get time at all. If you were to design an elementary science curriculum, would you design it so that the greatest amount of time on science was in kindergarten? That is how it was operating in this school.

If you want to find out whether a sequential curriculum is being taught sequentially, you must gather your data at least weekly or biweekly. If you got the data only at the semester end, you would know what was taught and how much time was spent, but you wouldn't know when in the semester it was taught. On page 9 of that same document, the data are presented on a district-wide basis. You begin to see a stairstep pattern, but you can also see some breakdowns.

On pages 10 and 11 are the rudiments of a microcomputer program which you can use to crunch your mapping data. It is not a difficult thing to set up on a computer. Page 12 contains the names of the school

districts which have used curriculum mapping. It tells you how much of the curriculum was mapped and when.

Question: How long do you continue mapping?

Answer: It depends on what kind of decisions you want to make. If you want to know whether or not your curriculum fits into a school year, you have to map the whole year. If you want to know if something is taught or not, you can sample for a two-week period. You will notice there are 10 steps to consider, with each step having multiple sub-questions. (See pp. 1-2 in Appendix C.) Those will answer some of the questions you have: How often do I collect the data? Do I map all of language arts or just spelling? The answer to each question depends on the kind of decision you want to make. Do you want to make decisions about the whole language arts curriculum or just the spelling curriculum? If it's spelling, you map only spelling; if it's language arts, you have to map all of language arts. If you want to know whether certain things are taught in language arts, then you may only need to map for a month. If you want to know if the language arts curriculum is realistic on a year-to-year basis, then you have to map the whole year.

The next question is, how often do you gather the data? Every week? Every day? Every month? Every semester? If you don't want to see the sequence, the map ends at the semester. In elementary schools you have to map more often--either weekly or every two weeks. The elementary curriculum is more skill-driven and teachers can't remember over a long period of time. Secondary is more content-driven. It's easier to remember, for example, how much time you spent on the Roman Empire than how much time you spent on diphthongs. A teacher would be

hard pressed to pick that out of their school day after three weeks. The more isolated the skills are, the finer they are, the more often you have to map.

EFFECTIVE USE OF CLASSROOM TIME

Jane Stallings

Jane Stallings is well-known across the nation for her work in effective teaching strategies. In the fall of 1983, she joined the faculty of Peabody Teachers College, Vanderbilt University, where she heads a Center for Research in Excellence in Teaching. She is the founder of the Stallings Teaching and Learning Institute at Mountain View, California. She spent 12 years at the Stanford Research Institute at Menlo Park, California, conducting research on effective educational techniques. Stallings earned her B.S. in elementary education and science education at Ball State University and her Ph.D. in education and child development at Stanford. She taught for 10 years in public and private schools--preschool to junior high.

In this recent stampede towards excellence, I'd like us not to forget some of the basic things that we value about teachers. I believe that some things can be researched and other things cannot be researched. We tend to grab hold of things that can be researched and base all teacher and school evaluations on those things. We want to define a good teacher by things we can see, hear, and count. As a researcher, I think we need to be careful and to be sure that the things we value most are also included when we think about evaluating teachers and establishing teacher preparation programs.

I'd like for you to take a minute and think back in time to your favorite teacher. What are the one or two special qualities that make that person memorable after all these years?

Responses: warm personality...keen interest in children...liked what she was doing...had high expectations...made everything fun...thorough...caring...allowed student participation...understanding...liked subject matter...fair...witty...enthusiastic...knowledgeable...demanding...energetic...patient...he/she listened...nurtured talent...business-like

My favorite teacher was a geometry/algebra teacher. She was fair, firm, and clear. She required that you get your body in the room and be in your seat with your materials when the bell rang. If you did your part, Miss Clark taught you algebra. She worked really hard and she helped you work hard. In her way she made it fun, but it was also very business-like. I guess I love her for not letting us fail, because I was pretty sure I was going to.

This list of things that you've generated is a pretty universal list. If I went to other groups of people with that same question, we'd end up with a list that looks very much like this. We may get a few different words or terms, but the ideas would be there, especially this idea of warmth and personal interest. If you made a list of three or four qualities of your favorite teacher, how many of you would include personal interest? (Almost every hand in the room.) You are saying, "In some way that person cared personally about me and that's why I remember him/her all this time, because I had the feeling of being cared for." And this idea of warmth--it felt good to be there; it was a nice place to be.

I have done this exercise to make a point. As we think about excellence in schooling and excellence in teaching, we need to keep in mind those qualities that we value most because those are real values. We may not be able to count them in frequency counts or give them percentages of time, but they are terribly important. We must not forget those qualities in our rush to be excellent, because they are a part of being excellent.

Using Time Effectively

In an effort to identify effective methods to teach basic skills, quite a lot of classroom observation research was funded during the

1970's. There was a reasonable payoff from this investment. Fisher, et al., established that in classrooms where more time was allocated to academic pursuits, students showed greater gains on achievement tests. Further, in classrooms where students spent more time engaged in appropriate learning tasks, greater progress was made. Stallings, Fairweather, and Needels (1978) pressed these ideas further and found that in secondary basic skills classrooms, effective teachers spread the available time over several activities, were interactive with students, and provided a supportive environment. In such classrooms, students were on task more often. Research by Evertson and Emmer (1980) has indicated that those teachers who make clear on the first day of school what is expected in terms of assignments and behavior have more smoothly-running classrooms. They were found to spend less time on organizational or behavioral problems throughout the year.

A simple method to check on students' on-task behavior is to use the seating chart observation form. (See Time Off-Task Manual, Appendix D.) Such objective information can help the teacher see which students are off-task during which activities. This information can guide the teacher's assessment of whether the lessons are too hard or too easy for uninvolved students, or whether students' locations in the classroom should be changed. If many students are found to be off-task the last 10 minutes, the teacher may wish to change the activities planned for the end of the period.

Classroom Organization and Planning

The findings from the study by Evertson and Emmer (1980) of teacher planning and management at the beginning of the school year were explicit

enough to guide practice. They were similar to the Stallings, et al. (1978), findings which were translated into a series of in-service workshops (Stallings, Needels, and Stayrook, 1979). In that series of workshops, we guided teachers to plan activities that would account for the entire class period, beginning when students enter the room and continuing until they leave. Teachers exchanged ideas on effective ways to take roll, make assignments, pass materials, assign seats, and group students. We found that, when considering classroom organization, it helped to view it from the students' perspective, for example:

1. How soon after entering the classroom are students informed of the day's assignment?
2. Are the students told the kind, amount, and quantity of work that is expected during the period?
3. Is the work assigned so that, for each period, students know the goal and can have a feeling of accomplishment?
4. Do students know how materials are distributed in class and what materials they must bring to class? Are the penalties clear for not having them?
5. What procedures are established for students to receive feedback for their work during the period?
6. Do students know where to sit, what group they are in, when to work alone, and when to work with a group?
7. Are students aware of the teacher's expectations regarding their behavior?

We found that effective teachers used a focus activity or a "sponge" that takes up time which is normally wasted at the beginning or ending of a period. When students walk through the door, there is a short activity they can do to earn extra points while the teacher takes roll, passes out papers, or organizes materials. They don't sit there chatting, so their off-task benavior is lower. (See sample sponge activities, Appendix D.)

Making assignments. All students should be aware of the assignment immediately upon entering the classroom. Any lapse between a student's entering the room and receiving information about the day's assignment is time spent off-task, and subsequently means lost learning time. We suggest two ways to make assignments quickly and efficiently. Some teachers will find it most effective to give the students their assignments as they enter the classroom. If the students have individual folders and assignments, they can be handed to the students as they enter the door. This procedure immediately establishes the work expectations of the teacher and allows the students to begin work immediately. It is also a means of checking the attendance for the day because any folders not given to students will identify those who are absent.

If the individual folders are not used, the assignments should be written on the board prior to the students' entering. As soon as the bell rings, the teacher calls attention to the assignments on the board and students start their work while the teacher takes the roll. If the students' assignments are based on groups, the group assignments are identified. For basic skills classes, it is important to make assignments short enough to be completed during the allotted class time.

Clarifying expectations. The teacher's objective is for all students in the class to begin their assignments as quickly as possible. Some students may try to delay the assignment by asking unnecessary or repetitive questions. The teacher should have a strategy for dealing with this type of delay and not reward the behavior by giving these students undue attention. One strategy is to reward those who start quickly by a point system--subtract points for not starting quickly. If many students do not

understand the assignment, check to see if there is ambiguity in what you have said. Ask some students to explain the assignment. If the student cannot do this, restate the directions and check for understanding. Make clear the quality of work that is expected as well as the quantity. If completed sentences and correct punctuation are required, say so and be consistent. Be clear about the student's responsibilities for completing the work. What are the prizes for completion? What are the penalties for not completing it? What do they do when it is completed? Teachers need to plan so that students do not line up to wait for the teacher to check papers or sit at their desks, waiting with their hands up. Such procedures waste valuable student time. Some teachers have students check each other's papers for quality and quantity. Then the teacher checks. The central idea here is to be certain that all students know exactly what is expected and that as little time as possible is taken to get them started on the tasks to be accomplished. Effective teachers spend less than 15 percent of the class time with these organizational tasks.

Improving distribution of materials. The manner in which students acquire their materials is also important. Students selecting their materials from the same area at the same time can often be a source of disruption and time off-task. For example, if several students are trying to select materials from a reading kit center, they are most likely to start socializing. Do not offer this opportunity. The teacher walking around the room distributing materials to individual students and explaining the work individually is also an inefficient technique. Each teacher must think through and plan the best system for distributing materials in order to save time and to avoid promoting social situations. Materials might be

handed to the students as they enter the room or be placed on the students' desks before class starts. Perhaps a student who arrives early can assist with distributing materials.

Students should know what materials they are expected to bring with them each day. Have a back-up plan for students who arrive without the required materials. Having extra materials available to be used during the period, but returned at the end of the period, would assure that every student would be able to work on the assignment for the day. Some teachers save short stubby pencils for this purpose; other teachers trade a student's possession for a pencil and trade back at the end of the period. Positive reinforcement for the students who remember to bring the materials with them--such as giving extra points for classroom behavior--helps to encourage students to arrive with the required materials.

Assigning seats. The more effective teachers assign students to seats and keep a seating chart. Secondary teachers often have 100-200 students and the seating chart helps them call students by name more quickly. Seats should be assigned to facilitate student learning, paying particular attention to those students with sight, hearing, or distraction problems. A seating plan should also allow for grouping of students for some instructional activities.

Grouping Students vs. Working with Individuals

During the 1960's and 1970's, many theoreticians and educators embraced the idea of individualized instruction, especially for the slow learner. While there is a certain appeal to having students work at their own pace through sequenced materials and having the teacher work with one

student at a time, there are distinct inequities in this organizational system. Given a 50-minute period and 25 students, a teacher cannot provide instruction and feedback to every student every day. All students cannot get their questions answered. The result is that in classrooms where the individualized approach is used, students are off-task more often and make less academic gain.

A better use of the teacher's instructional time is to group students for some portion of the class period. In several Stallings studies, effective secondary teachers were found to provide instruction to the total group initially and then to reteach and clarify instructions to a small group. Teachers then monitored the work of individuals no more than 35 percent of the class period. These findings on groupings are consistent with those of other studies (Rosenshine, 1977; Soar, 1973; Stallings and Kaskowitz, 1973).

Working with groups. All classes, even remedial ones, have students operating at different levels. Students should be grouped according to the skills they need to learn. For reading, this should be determined through tests that assess the student's decoding, vocabulary, and comprehension skills. Often this information is not available in the student files. Therefore, it is important that the classroom teacher is capable of administering simple diagnostic tests and locating materials to use with groups of students. Students with limited vocabularies and/or poor reading skills have difficulty reading content materials (e.g., science or social studies). This requires a total-group short lecture with demonstrations and questions to check understanding, followed by small group reteaching of concepts, and a drill and practice session. Groups should

be flexible so that students don't feel stuck in a group. As previously stated, they are formed to facilitate the learning of specific skills.

The placement of the teacher in relationship to members of the class is important when organizing the class for group work. The teacher should be aware of what the rest of the class is doing when his or her attention is focused on a particular group. Therefore, it is important for the teacher to be in a position where the rest of the class can be seen easily, never turning his or her back on the rest of the class. In this way, not only is the teacher able to monitor all the students, but the students are aware that they can be seen.

The groups should be positioned so that they do not distract each other. When the teacher is working with one group, the other group(s) should be placed so that they are not facing each other.

One teacher had the 18 lower achieving students in the social studies class sitting in the front of the room. Twelve higher achieving students sat in the back of the room. The teacher first provided instruction to the total group, then the 12 higher achieving students were asked to turn their desks toward the back wall and complete a writing assignment while the teacher provided more concept building activities and oral reading to the lower achieving students. At the end of 15 minutes, the lower achieving students started their seat work. The teacher moved to the other end of the room and discussed the ideas in the lesson with the higher achieving group. (Moving the desks took less than a minute.)

Rules for Behavior

In the Evertson and Emmer study (1980) the effective managers made clear the rules for behavior on the first day and integrated the procedures into a

workable system. They planned the first day for maximum contact and control over the students. They began the period explaining the rules and procedures and the reasons for having them. The better managers spent considerable time during the first week reminding students of the rules and carrying through with penalties. Students responded positively with less misbehavior.

In our studies, effective teachers posted rules for behavior and the penalties. Some teachers used point systems for good behavior. Students lost points for bad behavior. In schools where rules were consistent throughout the school, there was less misbehavior.

Interactive Instruction

One of the most important findings to emerge from our studies of teaching basic skills to secondary students, was that effective teachers provided several activities during one class period. Students did not spend the entire period doing worksheets or silent reading. Effective teachers distributed this time approximately as shown in Table 1. Less effective teachers spent more time organizing and more time on noninteractive instruction. They tended to jump from instruction to written work. They omitted checking for understanding and reteaching. Their students were off-task more often and were absent more often.

Reviewing. As indicated in Table 1, effective teachers spent 50 percent of their time providing interactive instruction to students. The first step is to review previous materials. This might be homework, seatwork from the day before, or a returned test. Students need feedback on what was right or wrong. Teachers who have 100-200 students will find it difficult to grade papers for every student very frequently. It is

Table 1

Time Allocations

Organize/Management Activities (15%)

(E) Take roll
(E) Make announcements
(E) Make expectations clear for the period: quality and quantity of work
(E) Clarify any behavior expectations
(E) Pass papers or books (out and in)

Interactive On-Task Activities (50%)

(E) Review/discuss previous work
(E) Inform/instruct new concept (demonstrate/give examples)
(E) Question/check for understanding
(S) Reteach small group (if necessary)
(S) Read aloud/develop concepts
(E) Summarize

Non-Interactive On-Task Activities (35%)

(L) Written work
(L) Silent reading
(I) Teacher monitoring/guiding

Key

E = Total Class
S = Small Group
L = Large Group
I = Individual

important then to provide some short quizzes that can be quickly graded and some assignments that can be graded by students. One effective teacher enlisted parents to grade papers once a month. They were instructed by the teacher on how to make corrections. Another teacher asked parents to grade their own child's homework before it was submitted. In both cases, the teachers' loads were lightened and students received more feedback.

Organizing information. The next step is for the teacher to provide some new information or concept. It is crucial that the information is offered in a way that links it to previous knowledge and that we explain the purpose of the lesson. Unless we tell students the purpose, they may miss the whole intent of the day's lesson. Let me give you an example of a study John Bransford did at Vanderbilt. We asked a group of people to read a passage. Half were told to read the article as a prospective home buyer; the other half read the article from the perspective of a burglar, who was interested in how to break into the house. Then we gave a test. The home buyers got the items right that dealt with the wiring, plumbing, etc. The burglars got the items right that dealt with doors, windows, locks, etc. You make linkages in your mind in terms of what you remember, because the purpose is different so you focus on different things.

I have another example that emphasizes the importance of presenting the purpose. When children don't really know the purpose, because the teacher hasn't systematically said what it is, their minds don't make connections. Listen to this passage and see what your mind makes of it.

> Sally first let loose a team of gophers, but the plan backfired when the dog chased them away. She then threw a party, but the guests failed to bring their motorcycles. Furthermore, her stereo system was not loud enough. Sally spent the next day looking for a peeping tom but was unable to find one in the yellow pages. Obscene phone calls gave her some hope until the number was changed. It was the installation of blinking neon lights across the street that finally did the trick. Sally framed the ad from the classified section and now has it hanging on her wall.

Look how your mind searches through and tries to make connections with that. It's really weird. It doesn't make any sense. Now let me tell you the purpose. Sally has a terrible neighbor, and she's trying to think of some way to get this neighbor to move. Now read it over again. See what

your mind adds, once you know the purpose. Now you know where the gophers are...in the neighbor's yard. The peeping tom was for the neighbor, and so were the obscene phone calls. We know who changed their number...the neighbor. The classified ad was the neighbor's house finally for sale! So you see, once you know the purpose, you add the meaning between the cracks. And that's a good example of why it's so important that the purpose be perfectly clear to students so that they can add meaning to the words that are on the page, because those words often don't say the whole thing.

It is also important to provide a conceptual framework for the new knowledge. This can be accomplished by contrasts: providing examples of what the new concept is as well as what it is not. The information needs to be structured in such a way that it can be stored in the long term memory. Cognitive psychologists have found that when a framework or schema is used to organize information, it is easier to remember. A lot of what goes on in schooling is helping kids make connections. So when we present new information, we should give examples and demonstrate, categorize and structure, because if someone is going to learn it, they have to put it in a "filing system." We learned that you can get people to memorize almost anything--even gobbledygook. But two or three weeks later, they don't know it. What's important is that during the learning process we develop understanding, hooks to hang things on, a filing system--so when the information comes in, it fits. Some people at Vanderbilt did an experiment with 30 college students and 30 third graders. They gave them lists of words such as table, chair, dog, pony, apple, pear--about 30 words that third graders knew--and then they gave them a

period of time to memorize them. Well, of course the college students memorized most of them. We would do it in different ways, but we would somehow categorize those things. But the third graders didn't have enough knowledge to do their own structuring. Then they gave the same groups of people a list of cartoon characters from Saturday morning cartoons. Now who do you think won? The third graders--they categorized the characters by program. They had a better knowledge for categorizing--the college students didn't have that. So that whole thing of structuring, categorizing, and developing some system for memory is very important.

One way to provide a framework is to use a "graphic organizer" like the one shown in Figure 1 for the concept: "mammal." In Figure 1, mammals is subordinate to warm blooded vertebrates; coordinate to fish, birds and amphibians; and super-ordinate to bipeds and quadrupeds.

Many secondary students have learned to deal with the "episodic" (sequential) nature of story information, but have not learned to build the conceptual networks required by academic content ("expository" prose, e.g., science or social studies). Such graphic organizers may aid student learning of such content.

Another technique to aid students' conceptual structuring of new material is to provide an outline on the board for students to use as they take notes. Some students may not know how to take notes and may need direct instruction in how to organize and categorize information. The overview or introduction (stage setting) to the new topic should reflect the structure of concepts being taught (e.g., only the main headings in the outline), as should the summary and review of the material.

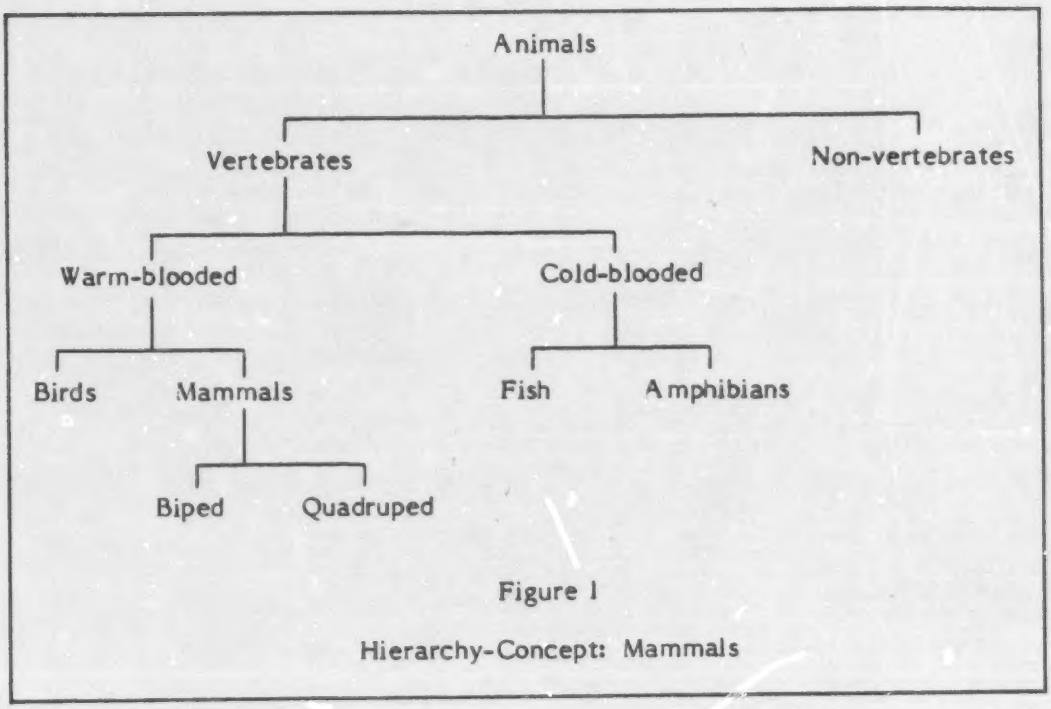

Figure 1

Hierarchy-Concept: Mammals

(SOURCE: Judith Thelen, Frostburg State College, Frostburg, Maryland)

Checking for understanding. After the instruction has been provided, it is important to see whether or not the students have learned what is expected. A good approach is to ask several of them to explain the idea or concept in their own words. I like to use some method that checks with the whole class. If the lesson has been on simple factual information, a drill and practice session may be in order. During this question-and-answer period, it is important that the teacher call on the students by name rather than call on volunteers. The reason for this is that the same students usually volunteer and many students do not participate when the volunteer answering system is used. By selecting specific students to answer each question, the teacher can distribute the questions evenly across the group and make certain that low-achieving students are asked questions that they are capable of answering. A simple way to examine who

interacts with the teacher is to mark each time the teacher speaks to a student on the seating chart. (See Appendix D.)

Reteaching. If some students do not understand the concepts, then a small group can be formed, and the teacher can reteach the concept using different examples and illustrations. This is a search for a means to link what the student already knows with the new information.

Oral reading. Oral reading can be found to be especially effective in remedial reading classes. This activity allows the teacher to diagnose students' reading abilities and provide auditory input and oral expression for students. The remedial students need to hear words and say words as well as read them and write them.

This activity should not be handled in a rote manner where students stumble over words and feel uncomfortable. Oral reading should only occur after the vocabulary and concepts have been developed. A passage that can be read with reasonable success should be selected for each student. At the end of a passage of three or four sentences, ask the student about a key concept or idea, or some particular word or concept. For example, John has just read a passage from a baseball story. Teacher, "What's a mound, John?" John answers, "A lump of ground." Teacher, "That's a good way to say it." Then the teacher proceeds to other students asking each a vocabulary question or concept question. "What does 'zip it right in' mean, Jose?" Jose, "Throw it." Teacher, "How?" Jose, "Fast."

Remember, a primary purpose of reading aloud is to provide students with the opportunity for auditory input and oral expression to aid the integration of skills and concepts. The oral expression activity is also

an opportunity to reinforce what students are expected to learn through reading silently and doing written assignments.

Summarizing. At the end of the class period, what has been learned should be summarized. Teachers often have trouble timing a lesson. It is either too long or too short and students are not occupied for the total class time or else a summary of the lesson is not provided at the end.

In the workshops provided by Stallings and Mohlman (1981) each teacher was given a profile of how their time was spent. Recommendations were made for increasing or decreasing certain activities. With discussion, modeling, and support, teachers did change how they used class time. Figure 2 shows how time is often used and how effective teachers use their time.

Supportive Environment

A supportive environment is more conducive to learning for most people, but it is especially important to students who have a history of failure. When students give incorrect answers, the teacher should use a positive and supportive technique to help the student arrive at a correct response. Teachers should avoid criticizing students or making them feel "put down." A question can be rephrased or more information provided and the question asked again. If the student still does not know the answer, the teacher should make a positive statement about some part of the student's response and move on to another student. Situations that allow students to experience total failure should be avoided. Based upon our research findings, a strong negative relationship between reading gain and

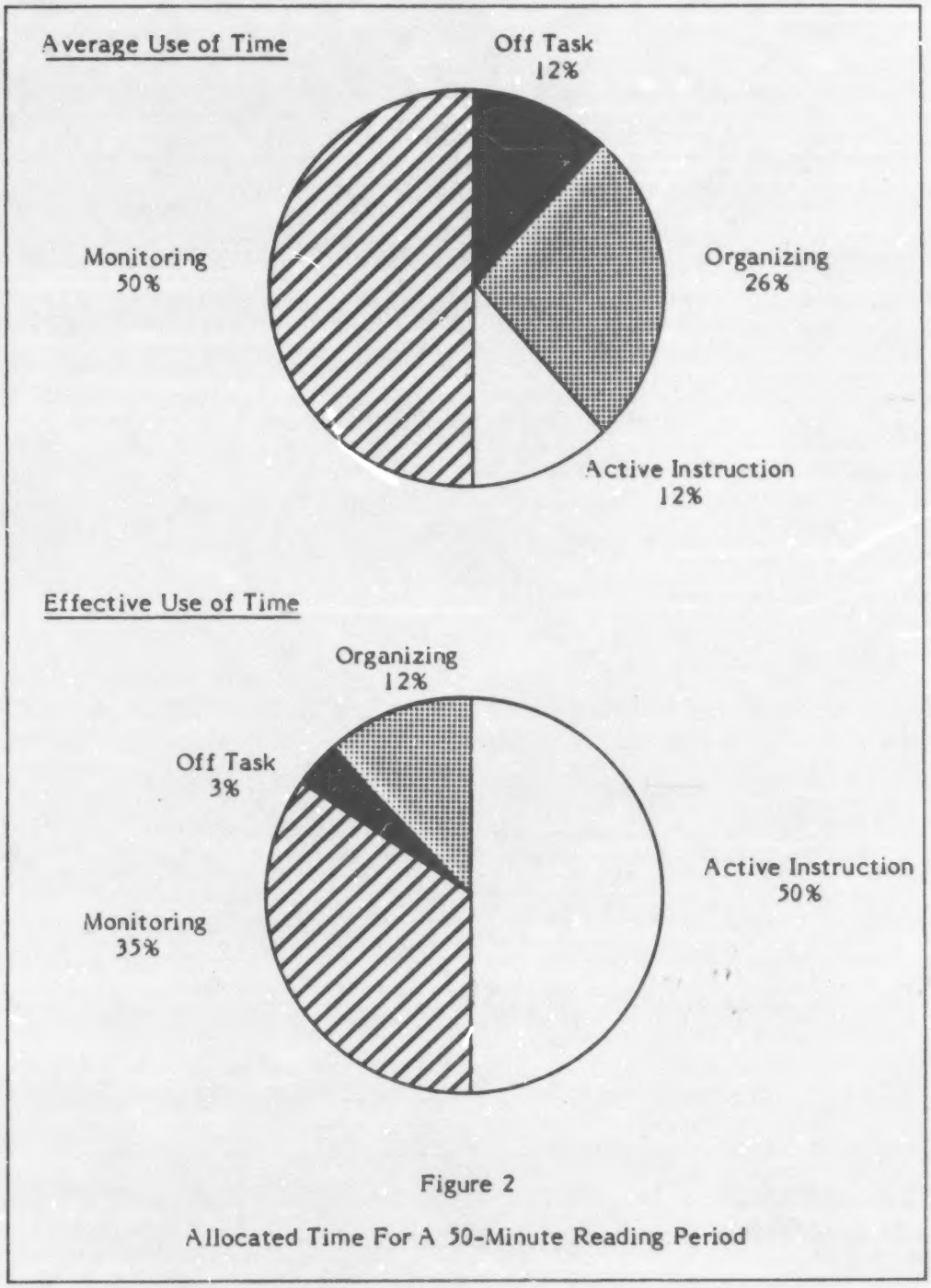

Figure 2

Allocated Time For A 50-Minute Reading Period

negative feedback was found. Thus, we recommended the following basic guidelines:

1. Do not say, "You are wrong." Rather, guide the student to a correct solution by rephrasing the question or adding some information.

2. Do not ignore the student and immediately ask another student the same question. Instead, attempt to lead the first student to the correct answer. Take some part of the answer and build upon it.

3. Do not embarrass the student in any way. It is all right to be wrong. The name of the game is support and success.

Students also need to receive some low key positive reinforcement for acceptable responses. These students need many opportunities to succeed either on written work or oral responses. In such a positive environment, students stay on task more, they experience more feelings of accomplishment, and learning becomes a pleasurable experience. When students receive appropriate external reinforcement for their success, they will develop their own inner feelings of success and pride. Teachers should provide the atmosphere and opportunities that allow students to experience success. An axiom for teachers when organizing their classroom and executing the program is that: the prime motivation for learning is success. (See Appendix D for a list of alternative ways to say, "Good for you.")

Student Outcomes

The link between students being on task and making more academic gain has been clearly established. Therefore, it is important to notice under what classroom conditions students are more likely to stay on task. Findings in several of our studies indicate that students are on task more often when teachers provide more interactive instruction, several activities during a class period, and a supportive environment.

When these conditions are more prevalent, students are absent less often and voice a more positive attitude toward the instruction in their classroom. Conversely, students are off-task more often in classrooms where the principal activities are silent reading and/or worksheets. These are non-interactive activities where students spend most of their time working alone in reading or writing activities. There is very little oral input or verbal expression to help them integrate skills. Students are also absent more often in such classrooms. As a Chicago principal, Major Armstead, said, "Students vote with their feet for good instruction."

STRATEGIES FOR TEACHING: A SUMMARY

Here is a list of all major teaching strategies currently being used. Use it to help you develop, analyze and expand your repertoire of teaching skills and behaviors as you individualize instruction for your students.

1. LECTURE--teacher gives oral presentation

   Advantages

   - Used for wide dissemination of information
   - Helps develop listening skills

   Disadvantages

   - Tends to be a one-way process with student in passive role
   - Difficult to measure student learning and/or interest

2. DISCUSSION--students and teacher talk together to share information or solve a problem

   Advantages

   - Students play important, active role
   - Urges students to organize facts and ask discerning questions

   Disadvantages

   - Unpredictable and difficult to manage
   - Teacher must be expert in group process skills

3. DRILL AND PRACTICE--often used together. Drill = fixation of specific associations for automatic recall; and practice = learning to improve

   Advantages

   - Students concentrate on one specific learning task
   - Can generate feeling of success and mastery

   Disadvantages

   - Without supervision, students might practice incorrectly
   - Can be boring and monotonous

4. INDEPENDENT STUDY--individual students study topics (either self-selected or supervised)

Advantages

- Allows student to study an area in great depth
- Appropriate for all areas of the curriculum

Disadvantages

- Little social interaction unless planned for
- Requires many independent skills from students

5. GROUP INVESTIGATION--a group of students organized for study (either part of a large study or independently pursuing their own topic)

Advantages

- Allows students to actively be involved in their own learning
- Conducive to developing leadership, discussion and process skills

Disadvantages

- Requires many independent skills--productivity can break down when problems in group arise

6. LABORATORY APPROACH--students have "hands on" experience with topic of study (i.e. field trips, manipulatives, experiments, etc.)

Advantages

- Allows for direct involvement by student
- Can be multi-sensory

Disadvantages

- Teacher must be quite knowledgeable in field of study
- Requires careful, thorough planning
- Information is usually obtained more slowly

7. DISCOVERY--emphasizes individual study, manipulation of objects, and other experimentation before generalizations are made (inquiry and problem solving are among skills taught)

Advantages

- Can strengthen student's self-concept
- Can be exciting and motivating

Disadvantages

- Not efficient for teaching large group of students and/or large amounts of content
- Calls for divergent thinking which may be confusing and frustrating for some students

8. THE LEARNING CENTER--a designated area or space in the classroom (or school) where students go to independently work on tasks (can be skill, interest, or reinforcement centers); many different approaches

Advantages

- May be used in wide variety of settings
- Allows students to proceed at their own pace and ability level

Disadvantages

- Encourages an active environment that may be unsuitable for all students
- Requires much planning and systematic record keeping

9. SIMULATION--students are asked to pretend to be someone else, for the purpose of learning more about how other people feel and act (includes techniques of role-playing, sociodrama, and simulation games)

Advantages

- Activities can be fun and motivating
- Allows for experimentation that cannot take place in the real environment
- Can promote class unity

Disadvantages

- Can be time consuming
- Requires much imagination on the part of the teacher and the students

10. BEHAVIOR MODIFICATION--stimulus-response conditioning (changing behavior by rewarding the kind of behavior desired and ignoring or disapproving the behavior you wish to discourage)

Advantages

- Good for pinpointing specific behaviors to be changed

Disadvantages

- Regarded by some as a "gimmick" or a means of manipulation
- Students may not be able to move from extrinsic to intrinsic rewards for learning

11. PERFORMANCE-BASED LEARNING ACTIVITY PACKAGES--programmed learning by means of individual student packets or workbooks

Advantages

- Self-pacing

Disadvantages

- Often viewed as impersonal and "factory-lined"
- Skills often seen as an end in themselves with no means for application

12. DO-LOOK-LEARN--teacher-guided, small group instruction

DO--Teacher creates an opportunity that will provide a common "here and now" experience (let's write endings to this incomplete story)

LOOK--Students "look" at themselves as they prepare to do the task (review the directions and process for completing task)

LEARN--Students practice (guided and independent); teacher monitors and adjusts

Advantages

- Can be used for wide variety of age levels
- Can be used for all disciplines of curriculum

Disadvantages

- Students can become teacher-dependent
- The other students in class must have skills for independence

This information was taken from Current Strategies for Teachers, by Gilstrap and Martin, Goodyear Publishing Company, Santa Monica, CA.

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APPENDICES

APPENDIX A

Handouts to Presentation by David Crandall

A COMPREHENSIVE LOOK AT EFFORTS TO IMPROVE SCHOOLS

For more than a hundred years, people responsible for the schooling of our nation's children have been trying to improve education. For nearly twenty years — since the passage of the Elementary and Secondary Education Act — the federal government has invested millions of dollars helping local educators develop and implement new practices in classrooms.

Over the years, as the number of successful new practices increased, the federal strategy moved away from funding more development and toward transferring what was already known to work to new settings. In the late 1970s, dissemination as a strategy for helping school people take advantage of proven innovations came into its own.

In 1978, the Study of Dissemination Efforts Supporting School Improvement was launched to answer such questions as:

- Has the federal investment in fostering innovation paid off for local schools?
- What conditions and activities favor success in school improvement efforts, and what stands in the way?
- What configurations of assistance to schools have what kinds of results?
- Do "home-grown" innovations achieve different outcomes from those imported from outside?
- Does placing administration, funding, and assistance at the state level effect improvement outcomes?
- How do strategies relying on person-to-person assistance differ from those used by commercial publishers?

To answer these and other important policy questions, the Education Department's Office of Planning and Evaluation awarded a multi-year contract to The NETWORK, Inc., Andover, Massachusetts. The NETWORK assembled a unique combination of individuals and organizations with expertise in school improvement research and, advised by a national expert panel, implemented a multi-staged design. Investigations extended from program offices in Washington, DC to classrooms in 146 school districts across the U.S. The effort resulted in:

- a map of the various strategies being used by federal and state governments to assist local schools to use new practices, including
  - * profiles of 45 federal dissemination or dissemination-related programs and activities;
  - * in-depth analysis of the history and underlying assumptions of 15 of these programs; and
  - * an examination of 10 states' efforts to support local implementation.
- a picture of what is happening in schools where new practices supported by government funds were implemented, including
  - * composite portraits of classrooms and schools in 146 districts where new practices were supported by 4 widely different federal strategies;
  - * case studies of school improvement efforts in 12 districts, developed through field work over the course of a school year; and
  - * an in-depth look at the characteristics and effects of assistance from sources both outside and inside local settings.

The overall result: A new understanding of the dynamics of implementation, and of the activities, conditions, and strategies that lead to successful change in schools.

This highly-detailed examination of the multi-faceted world of educational change and improvement will be useful to researchers, policy-makers, and practitioners alike.

VOLUMES IN THE REPORT SERIES

People, Policies, and Practices: Examining the Chain of School Improvement, Volumes I-X: David P. Crandall and Associates, The NETWORK, Inc., 1982 Price for total set: 150.00

Volume I: *Setting the Stage for a Study of School Improvement*, Susan F. Loucks, Joyce Ellyn Bauchner, David P. Crandall, William B. Schmidt, and Jeffrey W. Eiseman

In this volume, the study is set within a framework of federal school improvement policies and studies of these policies. The objectives, design, and research methodologies used in the study are described. 170 pages $18.00

Volume II: *Portraits of the Changes, the Players, and the Contexts*, Susan F. Loucks, Pat L. Cox, Matthew B. Miles, and A. Michael Huberman

This volume describes what was found in the 146 school districts that comprised our local site sample. Characteristics of the people, the innovations, and the settings are reported, as are the contributions of external assistance and the outcomes accrued from involvement in school improvement. 150 pages $18.00

Volume III: *Models of Change*, Joyce Ellyn Bauchner, Jeffrey W. Eiseman, Pat L. Cox, and William B. Schmidt

Causal models of the school improvement process, introduced in this volume, were used to help determine which factors influenced success. The findings are reported for several outcomes at the organizational (school) and individual (teacher) level, as well as for external assistance activity. The meanings of the findings for individuals in different roles are discussed. 100 pages $15.00

Volume IV: *Innovation Up Close: A Field Study in Twelve School Settings*, A. Michael Huberman, Matthew B. Miles, with Beverly Loy Taylor, and Jo Ann Goldberg

The study's field component examined the dynamics of twelve districts involved in improvement efforts supported by the National Diffusion Network or ESEA Title IV-C Development Grants. This volume provides an in-depth picture of the motivations, behaviors and aspirations of school people as new practices were implemented and maintained. 482 pages $25.00

Volume V: *Dissemination for School Improvement: An Analysis of Nine Federal Education Programs*, Glenn Shive and Jeffrey W. Eiseman

Nine widely different federal education programs sponsored by the then US Office of Education were profiled through analysis of documents and interviews of people associated with their dissemination efforts. This volume examines the assumptions underlying the programs and how these shaped each program's dissemination strategy. Thirty recommendations for restructuring and redirecting federal school improvement efforts are presented. 80 pages $15.00

Volume VI: *Dissemination at the National Institute of Education: Contending Ideas about Research, Practice, and the Federal Role*, Charles L. Thompson

This volume focuses on six dissemination programs supported by the NIE. It tells the story of their emergence, implementation, and — to the degree possible — results, and it discusses implications for the federal role in school improvement. 512 pages $25.00

Volume VII: *The Configuration of Federal and State Dissemination Activities*, Pat L. Cox and Charles L. Thompson

This volume is a comparative analysis of federal-state relationships for dissemination and school improvement in the ten sample states of the study. It examines the impact of federal initiatives and other critical influences on the roles and operations of state education agencies. 125 pages $15.00

Volume VIII: *The Infrastructure of Innovation: The Case of the National Diffusion Network*, James A. Taylor

This volume examines the communication and rewards structure of one federal program — the National Diffusion Network. It examines the NDN as a political delivery system which has evolved into a grass-roots effort with greatly reduced dependence upon federal leaders for direction and control. Network analysis based on a census of all members and adjuncts of the NDN, provides interesting insights into a unique federal program. 60 pages $15.00

Volume IX: *Implications for Action*, A. Michael Huberman and David P. Crandall

After summarizing the background, specific objectives, and design of the study, as well as the data collection strategies, this volume integrates activities and findings from all of the study components. It then discusses implications for policy and action for all levels of the educational expertise 128 pages $20.00

Volume X: *Executive Summary*, David P. Crandall and Susan F. Loucks

This volume distills all aspects of the Study of Dissemination Efforts Supporting School Improvement as described in the preceding nine volumes, for a general audience. It also includes an annotated bibliography of the report series and related study documents. 25 pages $12.00

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APPENDIX B

Handouts to Presentation by Shirley Hord

Game Plan Components

A Game Plan Component (GPC) is a manageable part of the game plan. The combination of several strategies and tactics with a similar focus comprise a game plan component.

GPC 1 Developing Supportive Organizational Arrangements

Actions taken to develop policies, plan, manage, staff, fund, restructure roles, and provide space, materials, and resources to establish and maintain use of the innovation.

Examples of related strategies/tactics:

1) provisioning--providing space, equipment, resource materials, etc.
2) hiring new staff
3) seeking/receiving funding

GPC 2 Training

Actions taken to develop positive attitudes, knowledge and skills in relation to use of the innovation through formal, structured, and/or pre-planned activities.

Examples of related strategies/tactics:

1) workshops
2) modeling use of the innovation
3) critique sessions with users around a pre-specified task

GPC 3 Providing Consultation and Reinforcement

Actions taken to encourage use and to assist individuals in solving problems related to the implementation of the innovation. Often, these actions are idiosyncratic, problem-specific, and targeted at an individual or small group of individuals.

Examples of related strategies/tactics:

1) "comfort and caring" sessions
2) administrator advocacy and support for use of the innovation
3) problem-solving group
4) peer-support group

Hord, S. M. & Loucks, S. F. A concerns-based model for the delivery of inservice. Austin: Research and Development Center for Teacher Education, The University of Texas, 1980.

GPC 4 Monitoring and Evaluation

Actions taken to gather, analyze, or report data about the implementation and outcomes of a change effort.

Examples of related strategies/tactics:

1) end-of-workshop questionnaire
2) pre-post analysis of learner outcomes
3) periodic assessment of concerns, use of configuration
4) administrators' conferences with teachers to assess how the project is going

GPC 5 External Communication

Actions taken to inform and/or gain the support of individuals or groups external to the users.

Examples of related strategies/tactics:

1) public relations campaign
2) training parents/community members
3) presentation at conferences
4) reports to the Board of Education

GPC 6 Dissemination

Actions taken to broadcast innovation information and materials to encourage others to adopt the innovation.

Examples of related strategies/tactics:

1) regular mailing of descriptive brochures to potential adopters
2) making charge free demonstration kits available
3) training and providing regional innovation representatives
4) presenting the innovation at administrator conferences

Hord, S. M. & Loucks, S. F. A concerns-based model for the delivery of inservice. Austin: Research and Development Center for Teacher Education, The University of Texas, 1980.

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Change facilitating styles of principals make a difference.

Initiators have clear, decisive long-range policies and goals that transcend but include implementation of the current innovation. They tend to have very strong beliefs about what good schools and teaching should be like and work intensely to attain this vision. Decisions are made in relation to their goals for the school and in terms of what they believe to be best for students, which is based on current knowledge of classroom practice. Initiators have strong expectations for students, teachers and themselves. They convey and monitor these expectations through frequent contacts with teachers and clear explication of how the school is to operate and how teachers are to teach. When they feel it is in the best interest of their school, particularly the students, Initiators will seek changes in district programs or policies or they will reinterpret them to suit the needs of the school. Initiators will be adamant but not unkind, they solicit input from staff and then decisions are made in terms of the goals of the school, even if some are ruffled by their directness and high expectations.

Managers represent a broader range of behaviors. They demonstrate both responsive behaviors in answer to situations or people and they also initiate actions in support of the change effort. The variations in their behavior seem to be linked to their rapport with teachers and central office staff as well as how well they understand and buy into a particular change effort. Managers work without fanfare to provide basic support to facilitate teachers' use of an innovation. They keep teachers informed about decisions and are sensitive to teacher needs. They will defend their teachers from what are perceived as excessive demands. When they learn that the central office wants something to happen in their school they then become very involved with their teachers in making it happen. Yet, they do not typically initiate attempts to move beyond the basics of what is imposed.

Responders place heavy emphasis on allowing teachers and others the opportunity to take the lead. They believe their primary role is to maintain a smooth running school by focusing on traditional administrative tasks, keeping teachers content and treating students well. They view teachers as strong professionals who are able to carry out their instructional role with little guidance. Responders emphasize the personal side of their relationships with teachers and others. Before they make decisions they often give everyone an opportunity to have input so as to weigh their feelings or to allow others to make the decision. A related characteristic is the tendency toward making decisions in terms of immediate circumstances rather than in terms of longer range instructional or school goals. This seems to be due in part to their desire to please others and in part to their more limited vision of how their school and staff should change in the future.

Hall, G. E., Rutherford, W. L., Hord, S. M. & Huling, L. L. Effects of three principal styles on school improvement. Educational Leadership, 1984, 41(5), 22-29.

The Second Change Facilitator is a significant person in school improvement efforts.

Figure A

Findings Related to the Roles of Facilitators in School Improvement

-----The Second CF's role may be filled by a variety of persons: an assistant principal, an appointed teacher from within the school, district level specialists or curriculum coordinators.

-----There is a division of change facilitating tasks between the Principal and the Second CF: Principals provide planning, guidance, reinforcement, and supervision directed to the individual teachers and teacher groups, while the Second CF does more training and problem solving work with individual teachers.

-----Second CFs' interventions on teachers are generally more complex, or contain multiple actions. This is reflected in training activities and frequent consultation with individual teachers about their progress.

-----The Second CF is more frequently interactive whereas the Principal's interventions are more frequently one-way.

-----The Principal's change facilitator style has a systematic relationship to the Second CF's role in a complementary way:

- Manager led schools showed half the number of interventions by the Second CF as the Principal (Managers try to do it all themselves).
- Responder led schools showed the Second CF doing more than the Principal (Responders allow others to do it).
- Initiator led schools showed the Second CF doing approximately the same number of interventions as the Principal (Initiators delegate and share resporsibility for tasks).

-----The Principal's change facilitator style influenced the location of the Second CF:

- Initiators and Managers organized and utilized their own staff, or district staff available to them, to work within the school to facilitate implementation.
- Responders often waited for someone in the central office to initiate and keep the change effort going, thus the Second CF would likely be based outside the school.

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APPENDIX C

Handouts to Presentation by Fenwick English

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THE IMPLEMENTATION KIT: CURRICULUM MAPPING

Topic	Pages
Table of Contents for The Implementation Kit	1
Questions to Consider in Planning to Map Your Curriculum	2-3
Curriculum Mapping Format (Data Collection)	
Elementary School Curriculum Review Format	4
Secondary School Mapping Format	5
Curriculum Mapping Format (Data Collation)	
Typical Two Dimensional Curriculum Mapping Table	6
An Example of Sequential Mapping Data	7
Sequential Data Within School by Grade Level	8
Sequential Data Within a School District	9
Specifications for the Development of a Computer Program	10-11
A List of School Systems which have Utilized Curriculum Mapping	12

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QUESTIONS TO CONSIDER IN PLANNING TO MAP YOUR CURRICULUM

Basic Decisions in Curriculum Mapping

1. What to map?

   What areas of the curriculum will be mapped?
   How have you determined that these are the proper areas?
   - -Test scores
   - -Opinion/observation
   - -Survey
   - -Other

2. Level of Specificity of Mapping?

   How much detail will be included in mapping?
   What are the major considerations involved in selecting the level of detail?
   - -Test data/match to mapping data
   - -Existing curriculum guides level of detail
   - -Length required of teacher response
   - -Mandates
   - -Local decisions
   - -Capability of data collation being automated

3. How Often Will Mapping Occur?

   How often will the mapping data be recorded?
   How often will mapping data be collated?
   How will mapping data be reported in a time sequence (daily, weekly, monthly, semesterly, yearly?)

4. How Will Mapping Data Be Collated?

   Who will gather the data?
   How will the data be transferred to collation sheets?
   What is the relationship between manual/automation data collation?
   What statistical analyses will be utilized in collation?
   How will the collation analyses be reported?
   Will a special computer software program have to be developed? If so, who will develop it? How will it be tested?

5. How Will Mapping Data Be Reported/Interpreted?

   What kinds of interpretation will be provided?
   What are the major questions which must be answered with mapping data?
   What are the boundaries of decision-making with mapping data?
   What will be done with mapping data?

QUESTIONS TO CONSIDER IN PLANNING TO MAP YOUR CURRICULUM (Continued)

6. What are the Anticipated Benefits of Mapping?

What are the major anticipated benefits of mapping? To whom will the benefits accrue?
In what ways are students and teachers expected to benefit from mapping?
In what ways will the system benefit?

7. What Steps/Policies Must Be Considered Prior to Mapping?

What previous exposure has the staff had to mapping?
How would you assess the climate of school operations at the present time?
What steps must be taken to ensure a successful experience with mapping?
What are the anticipated barriers to undertaking mapping? How will they be tackled and resolved prior to the mapping experience? Who will do this?
What procedures and/or policies must be adopted by the Board or administration to ensure a positive staff response towards the idea of mapping? How will this be done? Who will do it?

8. What Kinds of Followup Activities/Experiences Are Anticipated After Mapping?

What is anticipated as the major types of followup activities after mapping has occurred?
How will mapping be evaluated? How will it be known if mapping was a success or a failure?
How will mapping data be utilized to improve pupil achievement?
How will mapping data be employed to improve the process of curriculum development?
How would one know if more mapping were necessary after an initial experience with it?
What are the criteria by which you would know when to change the mapping experience?

9. What are the Major Costs Expected to Accompany a Mapping Effort?

Training/time and staff/consultants
Development of computer program
Development of mapping formats
Data collation (manual and automated)
Development of final report/recommendations
Changes in curriculum guides
Changes in the testing program
Changes in the evaluation system
Teacher and administrative time throughout the process
Other

10. Anticipated Sources of Funds to Underwrite Mapping Costs

Local
State
Federal
Private foundations, solicitations
Other

CURRICULUM MAPPING FORMAT

Type: Checklist Format A Elementary School Curriculum Review Report

School: _____ District: _____ Teacher's Name: _____

Grade(s)/Subject: _____ Mapping Period: _____

Instructions: Record each day the total minutes spent in each curricular area and non-curricular areas. Compute totals in minutes by week for each line. Total vertically by day for curricular area (line 17) and non-curricular each day (line 28). Compute total time per week (line 29). Do not count any activity twice (in more than one category). Total instructional time per day cannot exceed 265 for kindergarten, 265 for grades 1-2, 275 for grade 3, or 310 for grades 4-6. For total maximum time, add non-instructional time for your school.

		Time Distribution (in minutes) MAY					
	Curriculum Area/Topic/Skill/Subject	24	25	26	27	28	Weekly Total
1.	Reading (formal reading instruction, follow-up)						
2.	Spelling						
3.	Oral Language						
4.	Written Language						
5.	Handwriting (formal instruction, drill only)						
6.	Mathematics (formal instruction, follow-up)						
7.	Science (formal instruction)						
8.	Health Education (formal instruction)						
9.	Art (formal instruction and follow-up)						
10.	Music (formal instruction, listening)						
11.	Physical Education (instruction plus play)						
12.	Social Studies (history, geography, gov.)						
13.	Career Education (non-duplicative time)						
14.	Multicultural Education (formal instruction)						
15.							
16.							
17.	Total Minutes on All Curricular Areas (lines 1-16)						
18.	Attendance						
19.	Assemblies						
20.	Classroom Discipline						
21.	Testing						
22.	Collections, Drives						
23.	Announcements						
24.	Recess						
25.	Lunch						
26.	Other (Specify)						
27.	Total Time on Non-curricular (18-26)						
28.	Total Time Minutes per Day (17+27)						
29.	Total Time per Week (17+27)						

Non-Curricular Time

SAMPLE: SECONDARY SCHOOL MAPPING FORMAT

Type: Checklist by Course

Teacher's Name: _____ Grade: _____ No. of Students: _____

School: _____ Course: Intro. Phys. Science

Enter class periods or portions thereof, i.e., .25 - .50 - .75 - 1.00 - 1.25 - etc.

Weekly data gathering (Complete by Friday of each week) Account for total class time each week						
Pupil contact week						
days in week days						

Discipline						
Clerical/Announcements						
Testing						
Equipment set-up time (within class period)						
Other Activities (Assemblies, field trips, etc.)						

STRANDS/OBJECTIVES

1.	Follow data collection procedures.						
2.	Use reference material to gain information.						
3.	Construct line graph from data.						
4.	Identify qualitative relationships between variables.						
5.	Interpret values from a graph.						
6.	Identify the problem in an investigation.						
7.	Identify common laboratory equipment.						
8.	Perform mathematical operations with decimals.						
9.	Convert SI and metric values.						
10.	Make observations of phenomena.						
11.	Propose conclusions based on data.						
12.	Identify sources of error in experiments.						
13.	Determine mass using a balance.						
14.	Measure metric dimensions of solid objects.						
15.	Apply formula V=LxWxH to solid objects.						
16.	Determine liquid volumes with graduated cylinder.						
17.	Determine liquid volumes by displacement.						
18.	Determine density of regularly shaped objects.						
19.	Determine density of irregularly shaped objects.						
20.	Classify substances by density.						
21.	Measure temperature using Celsius thermometer.						
22.	Measure thermal expansion of solids, gases.						

TYPICAL TWO DIMENSIONAL CURRICULUM MAPPING TABLE

Theodore Roosevelt High School/Analysis of U.S. History and Government
Social Studies

Concepts Prescribed in the Curriculum Guide	Periods Reported Spent by Teacher on Concepts					ATS Average Time Spent
	Teacher A	Teacher B	Teacher C	Teacher D	Teacher E	
1. Federalism	.5	0	1	1	2	.90
2. Elastic clause	.5	.5	1	1	1	.80
3. Separation of powers	1	1	2	1	1	1.20
4. Checks and balances	1	1	2	1	1	1.20
5. Judicial review	1	2	1	1	1	1.20
6. Democracy	3	1	3	2	2	2.20
7. Republicanism	1	0	1	1	2	1.00
8. Capitalism	1	0	10	1	2	2.80
9. Socialism	1	0	0	0	0	.20
10. Communism	.5	0	0	0	0	.10
11. Fascism	0	0	0	0	0	0
12. Imperialism	.5	0	0	0	0	.10
13. Self-determination	0	0	2	0	0	.40
14. Isolationism	0	0	0	0	0	0
15. Bureaucracy	.5	0	0	0	0	.10
16. Nationalism	3	1	2	10	0	3.20
17. Sectionalism	2	1	3	5	2	2.60
18. Manifest Destiny	1	1	4	2	1	1.80
19. Ethnocentrism	2	0	3	.6	0	1.10
20. Assimilation	1	0	5	0	0	1.20
21. Industrialization	.5	0	10	2	3	3.10
22. Revolution	0	0	4	0	6	2.00
23. Alienation	0	0	4	0	6	2.00
24. Citizenship	2	.5	7	1	5	3.10
25. Compromise	1	2	5	5	2	3.00
26. Gerrymander	0	0	1	0	2	.60
27. Ethnic and minority groups	6	2	6	10	0	4.80
28. Women's Rights	1	1	4	0	0	1.20
29. Other concepts (racism, sexism, prejudice, antisemitism, etc.)	7	1	15	5	0	5.60
% of topics taught	83%	49%	80%	63%	56%	

AN EXAMPLE OF SEQUENTIAL MAPPING DATA

Teacher: Jeffrey Jones
Fifth Grade
Language Arts

	1 Week	2 Week	3 Week	4 Week	5 Week	6 Week	7 Week	8 Week	9 Week	10 Week	Total
Comma	20	5	0	5	5	0	0	0	0	5	40
Semi-Colon	0	0	0	0	0	25	25	0	0	0	50
Apostrophe	0	0	0	0	0	0	0	15	15	5	35
Begin sentence	0	10	10	30	5	5	0	0	0	0	60
Begin direct quote	0	0	15	0	0	15	0	5	0	0	35
Proper nouns	0	10	0	0	21	20	0	8	12	0	71
Proper adjectives	0	0	0	0	0	0	0	0	0	0	0
Title	5	0	0	0	0	0	0	0	0	0	5
The word "I"	0	0	0	0	0	0	0	0	0	0	0
Spelling	135	150	135	70	100	135	150	80	80	140	1175
Poetry	0	15	0	0	15	0	5	0	0	0	35
Outlining	0	0	0	25	25	0	0	0	0	0	50
Total	160	190	160	130	171	200	180	108	107	150	1556

Ten Weeks Areas of Greatest Stress

Spelling = 76%
Proper nouns = 5%
Beginning sentence = 4%

Largest Time Spent by Week in Language Arts

Week 6 = 200 minutes
Week 2 = 190 minutes
Week 7 = 180 minutes

SEQUENTIAL DATA WITHIN SCHOOL BY GRADE LEVEL/ONE YEAR

Topic/Area	Kindergarten	First	Second	Third	Fourth	Fifth	Total
Science Farragut School							
01- Material Objects	933	343	315	0	0	0	1641
02- Organisms	0	45	0	0	0	0	45
03- Interaction systems	0	10	360	103	0	68	541
04- Life cycles	0	0	0	0	0	0	0
05- Systems.variables	0	0	0	53	0	0	53
06- Populations	0	0	0	0	0	0	0
07- Rel. position/motion	0	0	0	38	105	15	158
08- Environments	0	0	0	0	0	23	23
09- Energy sources	0	0	0	0	0	205	205
010- Communities	0	0	0	0	0	0	0
011- Models, elct. magn.	0	0	0	0	0	0	0
012- Ecosystems	0	0	0	15	0	0	15
013- Nature study	0	0	0	198	0	0	198
	983	398	675	407	105	311	2879

Greatest Amount of Time Spent In Six Years of Science at Farragut	Number of Topics Taught
1. Kindergarten (34%)	1
2. Second Grade (23%)	2
3. Third Grade (14%)	5
4. First Grade (14%)	3
5. Fifth Grade (11%)	4
6. Fourth Grade (4%)	1

Topics Not Taught In Six Years

1. Life cycles
2. Populations
3. Communities
4. Models, electricity, magnets

Topics Which Received Greatest Emphasis in Science in Six Years

1. Material objectives (57%)
2. Interaction systems (19%)
3. Energy cources (7%)
4. Nature study (7%)
5. Relative position/motion (5%)
6. Systems/variables (2%)
7. Organisms (2%)
8. Environments (.007%)
9. Ecosystems (.005%)

SEQUENTIAL DATA WITHIN A SCHOOL DISTRICT

Topic/Area	Kindergarten	First	Second	Third	Fourth	Fifth	Total
Science							
01- Material objects	418	602	55	5		12	1092
02- Organisms	18	269					287
03- Interaction & Systems		52	413	82	8	12	567
04- Life cycles		57	229			61	347
05- Systems & Variables			53	304	25	20	402
06- Populations			42	340	6		388
07- Relative, position/ motion			1	7	596	65	669
08- Environments			2	5	98	88	193
09- Energy Sources			2		176	566	744
010- Communities					36	345	381
011- Models, Electricity, Magnets						12	12
012- Ecosystems				5			5
01 - Nature Study	72	91	56	85	11	77	392
Total	508	1071	853	833	956	1258	5479

Greatest Amount of Time Spent in Six Years in the District

		Number of Topics Taught
1.	Fifth Grade (23%)	10
2.	First Grade (20%)	5
3.	Fourth Grade (17%)	8
4.	Second Grade (16%)	9
5.	Third Grade (15%)	8
6.	Kindergarten (9%)	3

Topics Taught For Less Than Sixty Minutes

1. Models, magnets
2. Ecosystems

Topics Which Received Greatest Time Stress in Science in Six Years

1. Material objectives (20%)
2. Energy sources (14%)
3. Relative, position, motion (12%)
4. Interaction & systems (10%)
5. Systems & variables (7%)
6. Nature study (7%)
7. Populations (7%)
8. Communities (7%)
9. Life cycles (6%)
10. Organisms (5%)
11. Environments (4%)

SPECIFICATIONS FOR THE DEVELOPMENT OF A COMPUTER PROGRAM

TO COLLATE MAPPING DATA

The map should be collated by:

- district (overall average time spent and standard deviation by variable or range by variable (objective)
- school by area (overall average time spent and standard deviation by variable or range by variable (objective)

Time is expressed in periods of fractional parts thereof.

What the program should do is:

- for each variable (objective) compute an average of all teachers' time spent for the district and then for each of the schools by area (such as social studies, music, art, physical education, etc.)
- print out a list of average time spent by variable from highest to lowest by district and by school and by area.
- compute the percentage of the required curriculum actually taught and not taught (this is a calculation of the number of variables for which zeros have been recorded at the end of the mapping period by school and by the district) as a fractional part of the total curriculum for each area.

Ideally, after each variable by class we should know how much time (on the average) was spent by district and school and then some idea of the range of variance such as the least amount of time and the greatest amount of time. This information is carried in the standard deviation but if this is not possible to compute the range is satisfactory.

The above calculations should also be possible for the "unique curriculum" as well.

Also, the general categories listed on the mapping sheet which capture "discipline, substitute, etc. should employ the same set of computations by subject area, school, and by the district.

Sample: Seventh Grade Social Studies

District Objective	District	District SD	District Rank	SCHOOLS A B C D E F X, SD, R (for each school)

Note: What this data shows above is by objective (or variable) the average or mean time for the district, the standard deviation or range of the rank (highest to lowest average time within the set of objectives or variables) and then the same data by school. In this way a school's mean, standard deviation and rank with variables could be compared to the district's and to other schools.

Follow the same procedure for the unique curriculum.

Sample: Seventh Grade Social Studies/Unique Curriculum

Same set up

The rank could be followed by the actual mean by school such as:

Junior high school name

Variable SS - 1 3rd (12.3)

This would mean that on variable SS - 1 within this specific junior high school this was the third ranking variable by average time spent which was 12.3 periods for the year.

Then the social studies department could compare how this variable was ranked by the other schools and to the district as a whole.

The percentage of the curriculum taught/not taught is a matter of simply converting all numbers (whether a fractional part of a period to the total possible) to a one or X and then computing the percentage taught irrespective of time to those not taught. This is called THE SCOPE OF THE CURRICULUM TAUGHT. For example if there were twenty variables in the social studies department and 10 were not taught at the end of the year, the data would show the 50% of the curriculum was not taught and then go on to say that of the 50% of the curriculum that was taught this was where the time was spent on the average.

A LIST OF SCHOOL SYSTEMS WHICH HAVE UTILIZED CURRICULUM MAPPING

School District/and Administrator Responsible	Part of the Curriculum Mapped
Long Branch Public Schools 6 West End Court Long Branch, New Jersey 07740 Att: Superintendent of Schools	Grades K-5 in all elementary schools (7) in the district from September, 1980 through June, 1981. Data compiled by computer program.
Worthington City Schools 752 High Street Worthington, Ohio 43085 Att: Dr. Edward R. Lakey Superintendent of Schools	Mapping occurred during the 1979-80 school year at Worthington High School, grades 9-12, with a student population of approximately 2,262. Over 195 classes were mapped one or two semesters in all areas except driver education, special education, summer school and the Alternative High School.
Fresno Unified School District 3132 East Fairmont St. Fresno, California 93726 Att: Dr. Robert E. Case Assistant Administrator Curriculum Development	A two week mapping project was initiated at the elementary level in all subjects, and secondary school science was mapped as well during the 1981-82 school year.
School District No. 12, Adams County Northglenn, Colorado 11285 Highline Drive Northglenn, Colorado 80233 Att: Mr. Alex Reuter Assistant Superintendent for Curriculum and Instruction	All areas of the junior high school curriculum were mapped in the 1981-82 school year. The project involved about 105 courses in six junior high schools serving approximately 4,000 students in grades 9-12. Data was compiled by computer program on weekly sheets filed by 146 junior high school teachers.

CURRICULUM MAPPING

Mrs. Priscilla Alden
teacher
Fifth
grade
Social Studies

Pleasant Hills Elementary School

	THE CONTEXT/CONTENT OF THE CLASSROOM/U.S. HISTORY			
TOPIC OR UNIT	We begin our social studies work with the early explorers and colonizers of the New World. Chief among these were the Portuguese explorers Diaz, Cabral and Vasco de Gama. Later we study Columbus and the Spanish explorers such as Vasco Balboa, Magellan, Cortes, Pizarro, de Soto and Coronado. Later we examine the impact and development of Jamestown and Plymouth Bay. Some attention is given to the Massachusetts Bay Colony.			TIME* A 1
	CONCEPTS	SKILLS	ATTITUDES	
	-To arrive at a conceptual understanding of the forces which created the need for exploration and colonization of the New World -Understanding the vast diversity of the colonists	-Be able to recite by heart "The Courtship of Miles Standish" by H. W. Longfellow -Identify major United States landforms and regions -Develop "family tree"	-By recreating the first Thanksgiving in 1921 to come to respect the cause of human freedom -Awareness that cultural patterns are altered to fit a new environment	TOTAL TIME B
	TIME .10	TIME .40	TIME .50	1
TOPIC OR UNIT	GEOGRAPHY I do very little with maps in the fifth grade. Children really get into this heavily in the seventh grade anyway. We do one landform map exercise in the text.			TIME A .30
	CONCEPTS	SKILLS	ATTITUDES	
	-To understand the basic landforms of the United States such as location of plains, hills, mountains, etc.	-Be able to trace from the text and represent the major landforms on a map which is provided by the teacher	-To appreciate the basic landform structure of the United States	TIME B
	TIME .05	TIME .20	TIME .05	.30
TOPIC OR UNIT	CONTEMPORARY U.S. CITY LIFE My study of U.S. City Life requires the students to do case studies of at least two major figures in municipal reform: Charles Yerkes in Chicago and Tom L. Johnson of Cleveland. We also study public ownership of utilities.			TIME A .70
	CONCEPTS	SKILLS	ATTITUDES	
	-Cleanup of corrupt cities was not only the result of a change in the form of city government but the result of dynamic leadership emerging at the proper time	-Learn the essential elements of a case study -Be able to write in exposition form in clear sentences -Be able to draw conclusions from premises	-Appreciation of the necessity for strong leadership in times of trouble -Awareness of the fact that form must match the challenge of government	TIME B
	TIME .25	TIME .40	TIME .05	.70
	TOTAL TIME .40	TOTAL TIME 1.00	TOTAL TIME .60	2.00 TOTAL

*TIME A is the total time for the topic which should be equal to TIME B, the total time sub-divided into three categories.
ALL TIME EXPRESSED IS the number of hours per week per school year.

U1/1/83

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CURRICULUM MAPPING

Ms. Alice Gaun
teacher

Pleasant Hills Elementary School

Fifth
grade
Social Studies

THE CONTEXT/CONTENT OF THE CLASSROOM/U.S. HISTORY

TOPIC OR UNIT

Fifth grade social studies in my class concentrates on the explorers of our nation. We touch upon the early explorers such as de Gama, Cabral and Columbus. We spend some time on Pizarro and Cortes and move rapidly to the Western Explorers such as Daniel Boone, Lewis and Clark, Bill Cody and the California Gold Rush. We also study key legislation that led to Western exploration and expansion such as the Homestead Act and its implications for settling the United States.

TIME* A 3

CONCEPTS	SKILLS	ATTITUDES	
-Understand the difficulties and hardships faced by the early explorers -Understand the forces which led to Western exploration and the Oregon Territories	-Use the encyclopedia to locate information -Uses and interprets source material to classify motives of Western explorers	-Awareness of the extreme hardships faced by the explorers -Awareness of the relationship between economics and exploration	TOTAL TIME B
TIME 1.00	TIME 2.50	TIME .50	3

TOPIC OR UNIT

GEOGRAPHY
To learn geography my students do salt/flour relief maps of the United States. On these they indicate major cities. We do not use political maps, but do engage in the construction of timelines showing historical events of selected periods.

TIME A 1.50

CONCEPTS	SKILLS	ATTITUDES	
-Understand multiple events and their interactions via multiple timelines -Obtain a "feel" for the geographical features of the United States	-Be able to locate information and locate it on a timeline -Use contour maps -Be able to mix salt and flour to construct relief maps	-Awareness that geography and history are related -Appreciation for the hardships people suffer in extreme climates or rough, unexplored country	TIME B
TIME .40	TIME 1.00	TIME .10	1.50

TOPIC OR UNIT

CONTEMPORARY U.S. CITY LIFE
My unit on city life is concerned with the types of city government. It includes the city commission form of government and the city manager plan of Dayton, Ohio. We also study the TVA project and the founding of the NAACP by William DeBois.

TIME A .50

CONCEPTS	SKILLS	ATTITUDES	
-Understanding of the evolution of city government forms, from the corrupt forms like Tammany Hall to later forms that developed in Galveston like the commission form	-Be able to draw charts indicating the various forms of city government and the necessary functions of government -Recount important events in the TVA evolution	-Respect for the type of processes which led to reform of corrupt forms of city government -Awareness of the role of NAACP in upgrading the improvement of life	TIME B
TIME .15	TIME .30	TIME .05	.50
TOTAL TIME 1.55	TOTAL TIME 3.80	TOTAL TIME .65	5.00 TOTAL

*TIME A is the total time for the topic which should be equal to TIME B, the total time sub-divided into three categories.
ALL TIME EXPRESSED IS the number of hours per week per school year.

U2/2/83

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CURRICULUM MAPPING

Pleasant Hills Elementary School

Mrs. Kathy McClean
teacher
Fifth
grade
Social Studies

	THE CONTEXT/CONTENT OF THE CLASSROOM/U.S. HISTORY			
TOPIC OR UNIT	My fifth grade social studies program begins with the early explorers of our nation. These include the Portuguese explorers and Columbus. We study the conquest of Mexico and the Incas. We examine the evolution of religious freedom in the United States by studying Lord Baltimore's development of Maryland and the Act of Toleration of 1649. We also model for a week a "mock" House of Burgess of Virginia. We also set up a unit on the old Southern Plantation and its economy.			TIME* A 4
	CONCEPTS	SKILLS	ATTITUDES	
	-Understand the impact on the New World of the Puritan Migration of 1629-40 -Understand the trails of Roger Williams in moving to Rhode Island	-Be able to write stories based on the explorations -Be able to use the necessary resources to do good seat work -Work with other students in the House of Burgess	-Develop respect for the diversity of opinions about life and religion -Awareness of the need for a proper forum for dialogue to occur about sensitive issues	TOTAL TIME B
	TIME 1.50	TIME 2.00	TIME .50	4
TOPIC OR UNIT	GEOGRAPHY I teach the geography of the United States by working with four different kinds of maps: relief, landform, political, and historical. The students work in committees and develop one of each for a time period they select.			TIME A .50
	CONCEPTS	SKILLS	ATTITUDES	
	-Understand the use of time belts -Use longitude and latitude to locate cities and places -Understand the International Date Line	-Use string to measure distances on the globe -Make time estimates of how long it will take to reach a place by various methods	-Awareness of the need for international agreement on dates and time -Awareness of the need for uniformly understood map symbols	TIME B
	TIME .20	TIME .25	TIME .05	.50
TOPIC OR UNIT	CONTEMPORARY U.S. CITY LIFE My study of city life involves an analysis of five great American cities: New York, Chicago, Los Angeles, Boston and New Orleans as to quality of life, schools, jobs, problems, newspapers, law enforcement and history.			TIME A .50
	CONCEPTS	SKILLS	ATTITUDES	
	-Due to the linkages between cities by modern transportation and, problems are very similar despite geographical distances involved	-Ability to use a variety of contemporary periodical literature and categorize in report form as required	-Awareness that modern problems in the cities are indeed complex and are not resolved by dealing with possible solutions in isolation from each other	TIME B
	TIME .10	TIME .35	TIME .05	.50
	TOTAL TIME 1.80	TOTAL TIME 2.60	TOTAL TIME .60	5.00 TOTAL

*TIME A is the total time for the topic which should be equal to TIME B, the total time sub-divided into three categories.
ALL TIME EXPRESSED IS the number of hours per week per school year.

U3/1/83

CURRICULUM MAPPING

Mr. Henry Morgan
teacher

Pleasant Hills Elementary School

Fifth
grade

Social Studies

	THE CONTEXT/CONTENT OF THE CLASSROOM/U.S. HISTORY			
TOPIC OR UNIT	My fifth grade class examines the Exploration of the United States from the perspective of the major wars of Europe and their impact on colonization. We begin with the War of League of Augsburg which was King William's War of 1689-1697, followed by Queen Anne's War 1702-1713, King George's War from 1744-1748, the French and Indian War from 1754-1763, the American Revolution from 1775-1783.			TIME* A 3.60
	CONCEPTS	SKILLS	ATTITUDES	
	-Students will understand that the colonists were but pawns on a European chessboard -Early American leaders had war experience, viz. French and Indian War	-Students will be able to graph the major events of each war -Students will write case studies of major leaders on each side of the wars -Students will do a family tree	-Awareness of the fact that events in America must be seen in the context of larger war events -Appreciation between land and sea powers, i.e., Britain and France	TOTAL TIME B
	TIME 1.15	TIME 2.00	TIME .45	3.60
TOPIC OR UNIT	GEOGRAPHY Geography is studied in my class as it relates to the major features of the critical battlefields of the wars included in social studies. We also do military maps showing the movement of troops.			TIME A 1.00
	CONCEPTS	SKILLS	ATTITUDES	
	-Understands the relationship between geography and the different types of battles and military strategy employed	-Be able to develop troop movements from verbal descriptions of the battles -Use geographical symbols appropriately and show proper landform areas	-Appreciation and respect for the rigors of battle and their importance in American History	TIME B
	TIME .30	TIME .60	TIME .10	1.00
TOPIC OR UNIT	CONTEMPORARY U.S. CITY LIFE This unit in my fifth grade class largely consists of following the activities of Martin Luther King in the development of non-violent resistance in desegregation activities beginning in Montgomery, Alabama, up to the time of his death.			TIME A
	CONCEPTS	SKILLS	ATTITUDES	
	-Understanding between violent and non-violent means for problem resolution -Understanding of the impact of the Civil Rights Movement on current life	-Draw maps of Civil Rights movement in the South, the "freedom riders" -Develop graphs of the rate of desegregation in parts of the country	-Appreciation for the impact on non-violent means to achieve a set of desired ends -Appreciation for the courage of Martin L. King	TIME B
	TIME .10	TIME .25	TIME .05	.40
	TOTAL TIME 1.55	TOTAL TIME 2.85	TOTAL TIME .60	5.00 TOTAL

*TIME A is the total time for the topic which should be equal to TIME B, the total time sub-divided into three categories.
ALL TIME EXPRESSED IS the number of hours per week per school year.

04/1/83

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CURRICULUM MAPPING

Mr. Tad Wright
teacher

Pleasant Hills Elementary School

Fifth
grade
Social Studies

	THE CONTEXT/CONTENT OF THE CLASSROOM/U.S. HISTORY			
TOPIC OR UNIT	U.S. History in my class consists of a major unit on how the nation was founded and colonized. Students are aksed to explain the forces and impact of the territorial growth of the United States including the Louisiana Purchase, Gadsden Purchase, Mexican Cession and the Oregon Territories. They also study the exploration routes of early explorers and come to understand the realities of life in the early colonies.			TIME* A 2.00
	CONCEPTS	SKILLS	ATTITUDES	
	-Students will understand the economic base of tobacco in the early English Colonies -Understand the forces that led to territorial expansion	-Be able to trace on a map the routes of Diaz, de Gama, Magellan, de Soto, Cortes, Pizarro and Cabot -Can trace one's roots in chart form, "family tree" -can develop charts	-Students come to appreciate the hardships of the colonists at Jamestown and the Pilgrims at Plymouth Bay -Understand the impact of bringing of slaves to United States	TOTAL TIME B
	TIME .70	TIME 1.00	TIME .30	2.00
TOPIC OR UNIT	GEOGRAPHY My class does a political map of the various territories showing the expansion of the United States from 1783 to the Mexican Cession of 1848 and the Gadsden Purchase of 1853. We also learn some basic landform features of the United States.			TIME A 1.00
	CONCEPTS	SKILLS	ATTITUDES	
	-Understanding of the basic political consolidation of the United States from 1783 to 1853 -Knowledge of major rivers, mountains, plains of the United States	-Be able to locate the key political boundary lines leading to expansion -Develop an historical timeline of multiple events showing territorial expansion	-Awareness that the United States grew incrementally and was not "hatched" in its current political form -Awareness of the relationship between political and geographical features	TIME B
	TIME .48	TIME .50	TIME .02	1.00
TOPIC OR UNIT	CONTEMPORARY U.S. CITY LIFE We study the breakdown of city government in the period of the muckrakers, 1890 to 1910, the rise of political machines, and the crusade for municipal reform. We do a case analysis of Boss Tweed and Tammany Hall in New York.			TIME A 2.00
	CONCEPTS	SKILLS	ATTITUDES	
	-Be able to correctly use such words as "graft," "patronage," and "loyalty" -Explain the role of a precinct captain in a political machine	-Set up a correct procedure to insure an uncorrupted election process -Set up a "mock" recall procedure for a set of corrupt officials	-Appreciate the need for reforms in city government revealed by the muckrakers -Acquire negative attitudes towards "graft" and "patronage"	TIME B
	TIME .25	TIME 1.65	TIME .10	2.00
	TOTAL TIME 1.43	TOTAL TIME 3.15	TOTAL TIME .42	5.00 TOTAL

*TIME A is the total time for the topic which should be equal to TIME B, the total time sub-divided into three categories.
ALL TIME EXPRESSED IS the number of hours per week per school year.

US/1/83

EXERCISE TWO (A LATERAL ANALYSIS OF THE CURRICULUM)

From the fifth grade social studies curriculum maps of Pleasant Hills Elementary School, do an inclusion/exclusion task analysis of the curriculum. Place it in the prepared matrix below. Hypothetical test data has already been entered into the matrix. If the teacher taught the topic or area put an "X" in the blank. If the teacher did not teach the area/topic put a "0."

TOPIC OR AREA	TEACHERS						DISTRICT TESTING PROGRAM Areas of Test Items		
	Alden	Gaun	McClean	Morgan	Wright	TOTAL	Skills	Concepts	Attitudes
1. Portuguese Explorers							1	2	0
2. Columbus							0	2	0
3. Spanish Explorers							0	2	1
4. Jamestown Colony							0	2	1
5. Plymouth Bay							0	1	1
6. Massachusetts Bay Colony							1	1	0
7. Recite poem "The Courtship of Miles Standish"							0	0	0
8. Recreate the First Thanksgiving Day							0	0	0
9. Western Explorers							1	1	0
10. California Gold Rush							0	0	0
11. Religious Freedom (Lord Baltimore)							0	1	0
12. House of Burgess							0	1	0
13. Southern Plantation							0	1	1
14. Puritan Migration							0	1	0
15. Roger Williams							0	1	0
16. Major European and American Wars							0	0	0
17. Family Tree							0	0	0
18. United States Landforms							0	1	0
19. Territorial Growth of the United States							1	1	1
20. Slavery							0	1	0
TOTALS							3	19	4

PLEASE ANSWER THESE QUESTIONS

(1) How many of the topics listed were taught by all five teachers? _____

(2) Which fifth grade teacher taught the most of the topics listed? _____

(3) Which fifth grade teacher taught the least number of the topics? _____

(4) Which topics were taught be at least three of the five teachers? _____

(5) What part (percentage) of the fifth grade curriculum consists of singletons (a measure of its variance)? _____

(6) Which of the topics are included on the district test but are not being taught by at least three of the five teachers? _____ (percentage)

(7) Which of the topics are being taught by at least three of the five teachers that are not included on the district test? _____ (percentage)

06/1/83

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APPENDIX D

Handouts to Presentation by Jane Stallings

TIME OFF TASK MANUAL

The object of the Time Off Task observation instrument is to record a sample of all students' attending behavior or non-productive use of time during a scheduled reading or math period. The following behaviors are considered Off-Task and On-Task.

Off-Task Behaviors:

C = Chatting	Low talking or whispering, passing notes between students which pulls them off-task
D = Disruptive	Bothering a number of students, e.g., loud talking, throwing things, pushing or fighting
P = Personal Needs	Sharpening pencils, going to the toilet, getting a drink, getting papers or books
W = Waiting	Waiting with hand up for teacher's attention, waiting for materials to be passed

On-Task Behaviors:

* Reading "sanctioned" material
* Playing academic games
* Listening to directions
* Listening to academic content or interactions
* Watching demonstrations related to academic work
* Writing related to academic work
* Reporting, answering or reading aloud
* Performing an academically-related task, e.g., an experiment or project

Activities:

It is also of interest to know what was the expected activity when students were off-task. Were they supposed to be doing seat work (silent reading or written work); listening to the teacher making assignments or organizing (getting papers and books out); listening to the teacher's instructions or explanation; reading aloud; taking part in a question/answer period (children writing math problems on the board is included); or waiting in line for the materials.

S = Seatwork	Student is working at seat on silent reading or written assignment
O = Organizing	Listening to the teacher make assignments or organizing; getting paper and books out
I = Instruction	Listening to the teacher's explanation of content or subject matter
R = Reading Oral	Student is reading aloud
Q = Question/Answer	Teacher poses question to students; includes students writing math problems on the board
W = Waiting	Waiting in line or for materials

Procedures (Code every five minutes)

The observer will need a seating chart with all of the student's names on it. The boxes need to be large enough so that several entries can be made. In the lower grades where students move in and out of groups, it will be necessary to place large name tags on the children if you don't know the children. (Names on two tag boards with yarn going over the shoulders works well.)

Enter the teacher name, date and time on the form. Immediately after the period starts, make a scan or a visual sweep of the room --- going clockwise from the door you entered. Any student who is off task will be shown with one of the following symbols:

C = Chatting
D = Disruptive
P = Personal Needs
U = Uninvolved
W = Waiting

Now make a slash mark and under the slash mark show what the student was supposed to be doing: seatwork, organizing, etc., as listed under activities. Make the marks small enough so that several entries can be made.

Watch the clock and make visual sweeps of the classroom every five minutes until the period ends. Count the total number of sweeps you made and enter that on the form.

On Figure 1, we find that Jeff was uninvolved four out of ten sweeps. This occurred during instruction, seatwork and recitation period. What might be Jeff's problem? Bill was uninvolved during instruction and seatwork. Ursula and Sharon were chatting during organization time and seatwork. In each case, the teacher can make a judgement about what to do to help each child use their time effectively.

A summary of the percent of students off-task can be found by using the following formula:

$$\frac{\text{the sum of the number of students off-task for each observation}}{\text{the number of students} \quad x \quad \text{the number of sweeps}}$$

For example:

In a classroom of 30 students, 10 observations were made. In the first observation, two students were observed to be off-task; in the second observation, four students were off-task; third - three students; fourth = five students; fifth = three students; sixth = one student; seventh = two students; eighth = four students; ninth = seven students; and the tenth time, six students were off-task.

Using these figures, we obtain the following equation:

$$\frac{2 + 4 + 3 + 5 + 3 + 1 + 2 + 4 + 7 + 6}{30 \times 10} = \frac{37}{300} = 12.3$$

Thus, we have found that 12.3% of the students were off-task during this period.

Figure 1

STUDENTS OFF-TASK SEATING CHART

Teacher Name: Jane Smith Time: 9:00

Date: 9/12/84 Number of Sweeps: 10

Mrs. Smith (front of classroom)			
Flora	Mark	Betty	Joe
Jeff U/I ① U/S ② U/S ⑤ U/Q ⑥	Susan	Robert	Dona
Ursula C/O ⑤ C/S ⑦	Daniel	Ellen	Bill U/I ① U/S ② U/S ④ U/S ⑤
Sharon C/O ⑤ C/S ⑦	Jack C/S ⑥ C/S ⑦	Lee U/I ① C/S ② C/S ⑥ C/S ⑦	Mary

Students' Off-Task Codes

C = Chatting
D = Disruptive
P = Personal Needs
U = Uninvolved
W = Waiting

Time Sweep

① ② ③ ④
⑤ ⑥ ⑦
⑧ ⑨ ⑩

Activity Codes

I = Instruction
O = Organizing
R = Oral Reading
S = Seating
Q = Question/Answer
W = Waiting

Source: Stallings Teaching and Learning Institute

SUMMARIZING OFF TASK SEATING CHART

Who was off task the most?

Where were they sitting?

What was the most off task behavior?

_____ Chatting
_____ Disruptive
_____ Personal Needs
_____ Uninvolved
_____ Waiting

What might be the cause?

In what activity were students most off task?

_____ Seatwork
_____ Organizing
_____ Instruction
_____ Oral Reading
_____ Question/Answer
_____ Waiting

What might be the cause?

In what sweep were most off task?

_____ 1
_____ 2
_____ 3
_____ 4
_____ 5
_____ 6
_____ 7
_____ 8
_____ 9
_____ 10

What might be the cause?

BEGINNING SPONGES (PRIMARY)

Be ready to tell one playground rule....

Be ready to tell me the names of the children in our class which begin with J or M, etc.

Be ready to draw something that is only drawn with circles.

Be ready to tell a good health habit....

Have a color word on the board. Have children draw something that color.

Flash fingers--children tell how many fingers.

Say numbers, days of the week, months--and have children tell what comes next.

"I went to the sporting goods store and I bought...." Each child names an item.

What number comes between these two numbers: 31-33, 45-47, etc.?

What number comes before/after 46, 32, 13, etc.?

Have a word written on the board. Children make a list of words that rhyme.

Have a word written on the board. Children list words with the same long or short vowel sound.

Put spelling words in alphabetical order.

Count to 100 by 2's, 5's, 10's, etc., either oral or written.

Use T squares to drill math fundamentals.

Think of animals that live on a farm, in the jungle, in water, etc.

Give names of fruits, vegetables, meats, etc.

Hangman--using the names of the children in the class, or colors, or numbers.

Simon says....

List things you can touch, things you can smell, big things, small things, etc.

List the colors you are wearing.

Developed by Rose Kauffman and Pat Wolfe
NAPA County School District, California

DISMISSAL SPONGES

Clapping games.

Finger plays.

"I Spy"--Who can find something in the room that starts with M, P, etc.?

Who can find something in the room that has the sound of short a, long a, etc.?

Number rows or tables. Teacher signals # of table with fingers, children leave accordingly.

Those children who have all crayons put away may leave now, etc.

Those with freckles may leave, buckled shoes, new front teeth, etc.

Count in order or by 2's, 5's, etc.

Say the days of the week, the months of the year.

What day is it, what month is it, what is the date, what is the year, how many months in a year, how many days in a week, etc.?

Reward activity: "We have had a good day! Who helped it be a good day for all of us? Betty, you brought flowers to brighten our room. You may leave. John, you remembered to rinse your hands, good for you. You may leave. Ellen showed us that she could be quiet coming into the room today. You may leave, Ellen. Bob remembered his library book all by himself. Dawn walked all the way to the playground--she remembered our safety rules. Lori brought things to share with us. Tom surprised us with a perfect spelling paper--he must have practiced, etc., etc." Some students can be grouped together for good deeds to speed things up. Teacher can finish, "You're all learning to be very thoughtful. I'm very proud of you and you should be very proud of yourselves."

Use flashcards. A first correct answer earns dismissal.

To review the four basic shapes, each child names an object in the room either in the shape of a triangle, circle, square, etc.

Say a word that begins or ends with certain consonants, blends, etc.

Dismiss by color of eyes, color of clothing, type or color of shoes, month of birthday, season of birthday, beginning letter of first name, beginning letter of last name.

Name an object that begins with B, C, etc. Pretend you are this object as you leave.

What will we remember for tomorrow?

UPPER GRADE SPONGES

1. List the continents of the world.
2. Make up three names for rock groups.
3. Name as many kinds of windstorms as you can.
4. Take a number. Write it. Now make a face out of it.
5. Name as many gems or precious stones as you can.
6. Write the names of all the girls in the class.
7. Name as many teachers at this school as you can.
8. List as many states as you can.
9. Write: (a) an abbreviation, (b) a Roman numeral, (c) a trademark, (d) a proper name (biographical), and (e) a proper name (geographical).
10. How many countries and their capitals can you name?
11. How many baseball teams can you name?
12. Write down as many cartoon characters as you can.
13. List as many kinds of flowers as you can.
14. Turn to your neighbor. One of you tell the other about an interesting experience you have had. The listener must be prepared to retell the story to the class.
15. List all the things in your living room.
16. Write what you would do if you saw an elephant in your backyard.
17. Name as many kinds of ice cream as you can.
18. List five parts of the body <u>above the neck</u> that have three letters.
19. List one manufactured item for each letter of the alphabet.
20. List as many nouns in the room as you can.
21. List the mountain ranges of the U. S.
22. Write the 12 months of the year correctly. Stand up as soon as you are finished.
23. Make a list of five things you do after school.

Developed by Rose Kauffman and Pat Wolfe

24. List one proper noun for each letter of the alphabet.

25. Write one kind of food beginning with each letter of the alphabet.

26. Name as many holidays as you can.

27. How far can you count and write down by 6's?

28. Name as many balls as you can that are used in sports games.

29. List as many U. S. presidents as you can.

30. List all the work tools you can think of.

31. List as many models of cars as you can.

32. Name all the colors you know.

33. How many parts of an auto can you list?

34. How many animals can you list that begin with vowels?

35. List as many kind of trees as you can.

36. Name as many countries of the world as you can.

37. List as many personal pronouns as you can.

38. List as many kinds of transportation as you can.

39. How many different kinds of languages can you name?

40. Write as many homonyms as you can. Example: past-passed.

41. You have five children. Make up their five names.

42. Name as many things as you can that are made of cloth.

43. Name as many things as you can that you can wear on your head.

44. Name as many <u>movie</u> stars as you can (not TV).

45. List all the musical instruments that begin with "t."

46. Name as many TV game shows as you can.

47. Name as many politicians as you can.

48. Name as many breeds of dogs as you can.

49. Write the days of the week correctly in order. Stand up when finished.

50. List all the kinds of sandwiches that you can.

51. Scramble five spelling words, trade with someone, and unscramble them.

52. List as many things as you can that make people the same.

53. List as many kinds of soup as you can.

54. List all the places you find sand.

55. List as many breakfast cereals as you can.

SECONDARY SPONGES

1. List as many states as you can.
2. Write: (a) an abbreviation, (b) a Roman numeral, (c) a trademark, (d) a proper noun (biographical), and (e) a proper name (geographical.
3. How many countries and their capitals can you name?
4. How many baseball teams can you name?
5. Turn to your neighbor. One of you tell the other about an interesting experience you have had. The listener must be prepared to retell the story to the class.
6. List all the things in your living room.
7. Name as many kinds of ice cream as you can.
8. List five parts of the body above the neck that have three letters.
9. List one manufactured item for each letter of the alphabet.
10. List one proper noun for each letter of the alphabet.
11. Write one kind of food beginning with each letter of the alphabet.
12. Name as many holidays as you can.
13. List as many U. S. presidents as you can.
14. List as many models of cars as you can.
15. How many parts of an auto can you list?
16. Name as many countries of the world as you can.
17. List as many personal pronouns as you can.
18. List as many kinds of transportation as you can.
19. Write as many homonyms as you can. Example: past-passed.
20. Name as many movie stars as you can (not TV).
21. Name as many politicians as you can.
22. List all the places you find sand.
23. List as many breakfast cereals as you can.

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24. Make a list of the 10 largest things you know.

25. Name as many planets as you can.

26. List all the sports you can think of.

27. List all the foods you can that have sugar in them.

28. List all the foods you can that have milk in them.

29. Name as many rock groups as you can that begin with the letters A-F.

30. Name as many teachers at this school as you can.

31. Name all the models of Datsun cars you can think of.

32. Name all the parts of speech and give an example of each.

33. Why were these dates important: 1492, 1606, 1776, 1812?

34. Find these rivers on the map: Mississippi, Rio Grande, Colorado, Hudson.

35. Which TV series can you name that have high school-aged characters as regulars?

36. Name as many airlines as you can.

37. Name the different sections of the newspaper.

38. Name as many islands as you can.

39. Name all the types of musical instruments you can think of.

40. Name all the foods you can think of that contain protein.

41. Name as many kinds of fish as you can.

42. Name all the words you can that begin with the prefix "in."

43. Name as many as you can of the album titles of records by: Linda Ronstadt, The Eagles.

44. Name all the countries that have the letter "E" in them.

45. Name as many animals as you can which cause harm to man, either directly or indirectly.

46. Name five books you've read recently that you really enjoyed.

47. Name a movie you saw recently that you did not enjoy and tell why.

48. Name as many places as you can remember where you and your family have spent vacations.

49. List things you would buy if someone gave you a $100.00 gift certificate from Broadway.

TEACHER'S INTERACTIONS WITH STUDENTS
SEATING CHART

This data is to be collected throughout the selected class period.

A simple way to collect information on the teacher's interaction patterns is to record on a seating chart each time the teacher speaks to an individual student. The coding can be as follows:

? = Teacher asks a student a direct question: "Johnny, what is the spelling of the word 'voyage'?"

Ⓠ = Teacher asks student an open-ended, thought-provoking question: "Ursula, what do you think will happen next in this story?"

ʔ = Teacher checks for understanding: "Tell us in your words, Maria, what photo-synthesis means."

✓ = Teacher makes a comment or response: "Flora, you hair looks nice today."

+ = Teacher praises or supports a response: "Very good, Jose, 'forty-two' is the correct answer."

C = Teacher corrects a student's response: "No Barbara, that is wrong;" or "The correct answer should have been 'Mark Twain'."

G = Teacher corrects and guides a response: "Janice, try spelling the word one letter at a time, according to how it sounds, and see if you can figure it out."

- = Teacher reprimands behavior: "Martin, be quiet."

* = Student initiated remarks or questions (NOT in response to teacher's questions)

On the next page, we see an example where the teacher has asked Sue a direct question and has given Bill a reprimand.

These data can help teachers see to whom they are speaking and the nature of the interaction. It will also provide a frequency count of the questions asked, praise given, reprimands, and so forth.

NOTE: If the classroom seating takes a different form than the seating chart, for example, tables are arranged in a horseshoe formation instead of rows of desks, then the seating chart should be redrawn to conform to the actual classroom arrangement. The important thing is to get each student's name in the right place on the seating chart.

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TEACHER'S INTERACTIONS WITH STUDENTS SEATING CHART

DATE: _____ SCHOOL: _____

Mrs. Smith	(front of classroom)		
Flora ?G+	Mark ✓✓	Betty	Joe (?) +
Jose	Susan ?+, ?G+	Robert ?C	Dona
Ursula —	Daniel	Ellen	Bill —
Sharon —	Jack	Lee —	Mary

INSTRUCTIONS:

1. Fill in student's names in appropriate seats. Fill in the dates.
2. Each time the teacher speaks to an individual student, record the appropriate code in the student's box.

CODES:

- ? = Asks a direct question
- (?) = Asks an open-ended question
- ¿ = Checks for understanding
- ✓ = Makes a comment or response
- * = Student initiated
- + = Praises or supports a response
- C = Corrects a response
- G = Corrects and guides a response
- – = Reprimands behavior

Source: Stallings Teaching and Learning Institute

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OPERATIONAL DEFINITIONS

TEACHER'S INTERACTIONS WITH STUDENTS
SEATING CHART OBSERVATION

CODE	ITEM	USAGE
? ?	Direct Question Calls for single right answer, simple recall of fact; includes review questions	Code ? is recorded for a request for permission, information or direct recall of previously learned material. A yes/no answer or some other type of specific response (such as a statement of facts, itemization, classification, or a definition) or an action is anticipated. **Examples** "What is the capitol of Tennessee?" "How many degrees are in a right triangle?" "What is the opposite of black?"
? ?	Evaluative Questions/ Checks for Understanding Calls for Thinking; Summarizing; Explaining; Analyzing; Compare and Contrast Requires higher-order thinking, beyond simple recall of facts	Code ? is used for teacher questions that ask if the students understand the content or procedures of the lesson. The teacher must pause and allow time for students to respond. Very brief questions that do not allow enough time for students to respond or ask questions are not coded ?. **Examples** "Explain in your own words what 'ratio' means." "Summarize today's discussion on Civil Rights." "What is wrong with problem #3?"
? ?	Open-Ended Questions Conjecture; Feeling; Open to Speculation; Brainstorming	Code ? is recorded for a question which allows the respondent a free expression of ideas, feelings, and opinions. No obvious right or wrong answer is apparent. **Examples** "What is another way the story could end?" "What might have happened if Lincoln had not been shot?" "Who is your favorite character in the story? WHY?"

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CODE	ITEM	USAGE
✓	Social Remarks	Code ✓ is used for teacher's greetings, personal compliments, remarks that are social or not related to a task. All social remarks, whether questions, responses, or initiated statements, are coded ✓. **Examples** Teacher says to student, "You got your hair cut --- I hardly recognize you." Student says to teacher, "I'm getting a new stereo for my birthday." In a reading class teacher says to student, "I saw you playing football yesterday."
+	Support/Acknowledge/ Praise	Code + is used for statements that are supportive or show recognition; for example, an indication that a response, product, or behavior is recognized or agreed with. Code + is also used for repeating another individual's statement immediately, as a form of acknowledgement. It also includes praise. Code + also indicates non-verbal acknowledgement or praise. The code may be used for academic or behavior praise/acknowledgement. **Examples** Teacher repeats a student's answer as an acknowledgment. Teacher writes student's answer on board. After class settles down as a result of teacher's request, he or she says, "That's better. Thank you." Teacher says to class, "The results of your spelling tests are superb. I'm very pleased!"

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CODE	ITEM	USAGE
C	Correction	Code C is recorded for attempts by the teacher to inform student(s) that a response is not correct or that behavior is unacceptable. Examples Teacher tells student to stop combing her hair. Student has responded incorrectly to the teacher's request to spell a word. Teacher says, "No, that's not right", "It is K-N-I-G-H-T", or calls on another student. Teacher says, "No, the answer is 82."
G	Guide	The G code is used anytime a teacher is attempting to modify students' academic responses by guiding them to another solution, or by adding a little more information, or by asking a probing question. Any attempt to help the students get a correct answer other than telling them. Examples "Your answer is partially right. What else defines a Shakespearean tragedy?" "One tragedy has two young people who are in love but their families are enemies. What happens to them?" "Don't give up. What is your hunch?" or "Make your best guess."
*	Student Initiated Remarks or Questions	Code * when the student has initiated a remark or question that is not in response to the teacher's questions. (Unless a social remark, coded ✓.) Examples "Mr. Black, who is responsible for regulating pesticide usage on farm crops?"

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CODE	ITEM	USAGE
—	Negative	The — code is used for any sarcastic or demeaning statements, overt displays of anger, or threats made by teacher or students.
		Example Student has answered incorrectly, and teacher says, "What a stupid answer."
		—is also used when a teacher sends a student from the room for disciplinary reasons. Code — throughout the entire interaction.
		Example Teacher says, "I will not argue any longer --- go to the vice-principal's office."
		The — code is used when, as punishment, the teacher withdraws privileges or assigns extra work, and when the student(s) respond to these punitive actions. Code — throughout the entire interaction.
		Example Teacher tells student he may not participate in a group game because of a misbehavior in class.
		— is coded when a student obviously displays feelings of hurt or humiliation. These expressions may be obvious and accompanied by at least one of the actions listed below.
		Example In response to a teacher reprimand: -Student covers face with an object or hands. -Student puts head down on desk. -Student says that he or she feels hurt or humiliated. -Student leaves room angrily.

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Name _____ Date _____

SUMMARY OF INTERACTION SEATING CHART

How many students were in the class? _____

How many students were spoken to? _____

Where was the student most spoken to sitting? _____

Where were the students not spoken to sitting? _____

Was there any pattern? _____

Number of Direct Questions asked? _____

Number of Checks for Understanding asked? _____

Number of Open Ended Questions asked? _____

Number of Guides? _____

Number of Corrections? _____

Number of Praises? _____

Number of Reprimands? _____

SIXTY-FOUR WAYS TO SAY, "GOOD FOR YOU"

Everyone knows that a little praise goes a long way in any classroom. But a "little praise" really needs to be something more than the same few phrases repeated over and over ad nauseum. Your students need more than the traditional "Good," "Very Good," and "Fine"...if encouragement is in the cards. Here are some additional possibilities.

That's really nice.
Wow!
I like the way you're working.
Everyone's working so hard.
Much better.
It's a pleasure to teach when you work like this.
What neat work!
This kind of work pleases me very much.
That's right! Good for you.
I bet your Mom and Dad would be proud to see the job you did on this.
Thank you for (sitting down, being quiet, getting right to work, etc.).
Right on.
Sharp!
I like the way Tom is working.
My goodness, how impressive!
That's "A" work.
Mary is waiting quietly.
Ann is paying attention.
That's clever.
Very interesting.
That's an interesting way of looking at it.
That's the right answer.
Exactly right.
Superior work.
That's a very good observation.
That's an interesting point of view.
Nice going.
You make it look easy.
I like the way Bill (the class) has settled down.
Sheri is really going to town.
That's coming along nicely.
Thank you very much.
That's great.
Keep up the good work.
That's quite an improvement.
Keep it up.
Good job.
Excellent work.
You really outdid yourself today.
Congratulations. You had ____ right.
Beautiful.
Terrific.
I'm very proud of the way you worked today.
I appreciate your help.
Very good. Why don't you show the class?
Marvelous.
Groovy.
For sure.
That looks like it's going to be a great report.
You're on the right track now.
John is in line.
Dickie got right down to work.
It looks like you put a lot of work into this.
Very creative.
Now you've figured it out.
Clifford has it.
Now you've got the hang of it.
Super.
That's a good point.
You've got it now.
That certainly is one way of looking at it.
Thank you for raising your hand, Charles. What is it?
Out of sight.
Far out.